THE FIFTIETH ANNUAL REPORT OF THE SANITARY COMMISSIONER

AND THE

TWENTY-FOURTH ANNUAL REPORT OF THE SANITARY ENGINEER,

MADRAS.

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THE

FIFTIETH ANNUAL REPORT

OF THE

SANITARY COMMISSIONER WITH THE GOVERNMENT OF MADRAS,

1913.

SECTION V.

GENERAL POPULATION.

RAINFALL.

THE total district rainfall of the year averaged 43·38 inches against 45·93 inches of 1912 and 44·48 inches the average of the 40 years ending with 1909. Compared with the average, there was an increase in 7 districts and a decrease in 18. The excess was over 10 inches in Chingleput (+ 12·66), Madras (+ 16·07), South Arcot (+17·42) and Tanjore (+13·81), while the decrease was more than 5 inches in Chittoor (—7·29), Coimbatore (—6·92), Guntūr (—5·41), Kistna (—9·20), Kurnool (—5·58), Madura (—5·31), Malabar (—10·73), North Arcot (—7·25) and South Canara (—19·52). Compared with 1912, the increase was marked in Madras (+18·38), South Arcot (+21·58) and Tanjore (+ 22·35) and the decrease in Malabar (—36·20) and South Canara (—36·87).

2. Viewed with reference to the monsoons, the south-west monsoon yielded a district average of 22·08 inches and the north-east 17·38 against 25·33 and 17·17, respectively, of the year 1912. Compared with the previous year, the south-west monsoon was unfavourable over the Presidency as a whole. Only six districts showed an excess, the total amount recorded in them being 15·88 inches. The decrease was most marked in Malabar (—35·64) and South Canara (—33·34). The shortage in the south-west monsoon in the districts of Chingleput, Ganjām, Gōdāvari and Madras was, however, counterbalanced by an excess rainfall in them in the north-east monsoon. In 13 districts both the monsoons showed a shortage during the year under report.

3. Of the districts which depend chiefly upon the north-east monsoon, the districts of Chingleput, Madras, South Arcot, Tanjore and Trichinopoly received a rainfall in excess of the previous year and of the average, the districts which showed a shortage being Chittoor, Coimbatore, Madura, Nellore, North Arcot, Rāmnād, Salem and Tinnevelly.

PRICES OF FOOD-GRAINS.

4. The prices of the staple food-grains were nearly the same in all the districts the Presidency as in the previous year, but were very much above the average years ending 1912–1913. During 1913, rice was sold at 7·4 imperial seers

of 80 tolas per rupee, ragi at 13·5, cholam at 12·7 and cumbu at 12·6 against an average of 9·9, 17·2, 16·9 and 16·2 seers, respectively. These figures represent a rise in prices by 33·8, 27·4, 33·1 and 28 6 per cent. above the average. In no district were food-grains sold at a cheaper rate during 1913 as compared with the average. This is positive evidence that living is becoming dearer now a days.

GENERAL POPULATION.

5. According to the census of 1911, the population of the Presidency was 41,829,232, exclusive of Europeans and Eurasians. The European and Eurasian population excluded from this total amounted to 40,928. The population for which vital statistics were furnished for the year under report was 40,005,735, leaving a total of 1,823,497 souls unaccounted for. These are composed of the hill tribes of the Ganjām district (341,622) and the Vizagapatam district (1,020,077) and the inhabitants of the Laccadive Islands (10,600), of the Banganapalle State (39,343) and of the Pudukkōttai State (411,855). The estimated population of the year 1913 is 42,778,652 and its natural growth as ascertained by adding to the census figure of 1911 the excess of births over deaths during the succeeding period up to the end of December 1913 is 42,817,334.

6. The number of emigrants for Fiji, British Guiana, the Straits Settlements, Burma and Ceylon that actually embarked from the Presidency during the year was 440,833 against 405,000 in the previous year. Immigrants (excluding the indentured emigrants) during the year numbered 357,696 or 33,328 more than in the previous year. Emigrants during the year exceeded the immigrants by 83,137.

7. The machinery employed for the registration of vital statistics both in urban and rural areas and the methods adopted for the collection and tabulation of the results secured underwent no change during the year under report.

8. Act III of 1899 was in force in 279 unions and 1,898 villages. Registration in rural areas cannot be considered accurate as the agency employed was quite inadequate for the purpose. Unless Act III of 1899 is made compulsory throughout the Presidency and competent men employed as registrars of births and deaths better results in registration cannot be expected.

9. In mufassal Municipalities, there were 1,362 convictions for failure to report births and deaths, the amount of fines imposed by the magistracy for such failure being Rs. 776–10–0.

BIRTHS IN DISTRICTS.

10. During the year under report a total of 1,288,618 births was registered in the whole of the Presidency against 1,245,465 in 1912, showing an increase of 43,153 births. Calculated upon the census population of 1911 the birth-rates for 1913 and 1912 stood at 32·2 and 30·9 per mille, respectively. Compared with the decennial average of 10 years ending 1912 the recorded birth-rate for the year showed an increase of 0·6 per mille. The increase as compared with the previous year occurred in 15 districts and the decrease in 9, the rates for Nellore being the same in both years. The increase was most marked in Ganjām (+12·2) due evidently to better registration. It was also large in Rāmnād (+5·6), Bellary (+5·0) and Tinnevelly (+4·2). Among the districts which showed a decrease, Gōdāvari (—3·1) headed the list. Judged by the decennial average there was an increase in 18 districts and a decrease in 7, Nellore (+4·1) and North Arcot (+4·0) showing the largest increases and South Arcot the largest deficit (—4·4).

11. The districts which showed largest birth-rates were Guntūr (38·7), Chingleput (38·6), Madras (37·6), Kistna (37·4), Tinnevelly (35·8) and South

Canara (35·0). The lowest rates were returned by Rāmnād (25·4), Madura (27·9), Cuddapah (28·1), South Arcot (29·7) and Gōdāvari (29·9). In the other districts the rates varied between 30·0 in Nellore and Trichinopoly and 34·3 in North Arcot.

12. Considered with reference to sex the proportion of male to female births was 104·5 to 100, the previous year's figures being 104·8 and 100. The difference is very slight. Classified according to race, the birth-rate among Muhammadans was 34 6, among Hindus 32·2 and among Indian Christians 29·9, corresponding rates for the previous year being 33·2, 31·0 and 28·2, respectively.

13. The total number of births registered in 1913 in the 206 rural towns in the Presidency containing over 5,000 inhabitants (excluding Hospet which was newly constituted into a Municipality) was 58,915 against 57,582 in 1912. Calculated upon the census population of 1911, namely, 2,226,321 (1,084,967 males and 1,141,354 females), these figures yielded annual ratios of 26·5 and 25·8 per mille, respectively. As compared with the previous year, there was an increase in 124 towns and a decrease in 81, the rates in Natham being identical. An increased birth-rate of over 15 per mille was returned by Vasudevanallur (+22·4), Tekkali (+19·0), Puliyankudi (+18·4), Pattamadai (+18·0), Sriperumbudur (+17·8), Dharmapuri (+15·9), and Kaveripatnam (+15·1). The decrease was prominent in Attili (—41·3), Valuru (—39·7), Achanta (—36·0), Nuzvid (—31·7) and Valavanur (—25·3). These large variations point to the conclusion that there was something wrong with the registration machinery in the towns concerned. The birth-rate was highest in Nāmakkal (58 9). Other towns which showed largest birth-rates were Sriperumbudur (57·8), Dharmapuri (54·8), Tanurnagram (48·3), Madurāntakam (47·1), Adanki (43·9) and Bhavāni (43·5). In nine other towns the rates varied from 42·0 in Kōsgi to 40·2 in Vartirāyiruppu. Registration must have been grossly neglected in the marginally-noted five towns* where the rates recorded were below 10 per mille. Very low rates have been returned for the last 3 years successively by Vempalli, Razampetta and Kattur and no action seems to have been taken by the local authorities to set matters right.

* 1. Vempalli (9 5).
2. Karakudi (9·1).
3 Razampeta (8 4).
4 Samalkot (6·6).
5. Kattur (5·9).

14. According to the census of 1911, the total population of the rural areas in which Act III of 1899 was in force during the year was 6,275,545 and that of the areas where it was not, 31,337,649, the total birth-rates obtained for these populations being 31·8 and 31·9 per mille, respectively. Of the 21 districts where the Act was in force, 10 yielded rates in excess of those registered in the non-compulsory areas. The increase was marked in Salem (+22·1), Rāmnād (+15·2) and Gōdāvari (+12·7). Kurnool and Kistna showed the largest deficits of 18·9 and 14·9 per mille, respectively.

DEATHS IN DISTRICTS.

15. The total number of deaths registered during the year was 856,651 against 982,308 in 1912. These figures represent annual ratios of 21 4 and 24·3 per mille, respectively, against the decennial average rate of 23·8. The death-rate during the year was thus 2·4 below the decennial average and 2·9 below the previous year's rate. As compared with 1912, the increase occurred in three districts and the decrease in 22, the low rates being prominent in Cuddapah (—12·4), Bellary (—11·7), Gōdāvari (—9 3), Kurnool (—7·3) and Vizagapatam (—6·4). The decrease may be chiefly attributed to fewer deaths recorded during the year under "Cholera," "Fevers" and "All other causes."

16. Excluding Madras which recorded a death-rate of 40·3 per mille, the highest death-rates were returned by Malabar (26·5), the Nilgiris (26·2), Tanjore (26·1) and Anantapur (25·5) and the lowest rates by Gōdāvari (16·9), Ganjām and Vizagapatam (17·4 each), Rāmnād (17·5), Cuddapah (17·9), Nellore (18·5), Kurnool (18·8) and Madura (19·6).

17. For every 100 female deaths there were 103·6 male deaths. Racially concerned, the death-rate (23·7) among Muhammadans was the heaviest, as usual, [illegible] 27·7 in the previous year. Among Hindus and Indian Christians the rates

were 21·4 and 18·6, respectively, corresponding figures for 1912 being 24·4 and 20·1 per mille.

18. The mortality among children under one year of age averaged 180·0 per mille of registered births during the year against 190·4 in 1912. Distinguished by sex, the rate of mortality of male infants was 189·3 and of female 170·3. Thus for every 100 deaths, there were 53·7 male and 46·3 female deaths, as in the previous year. Compared with 1912 increased death-rates among infants occurred in eight districts, North Arcot (+23·9) heading the list, followed by Madras (+14·5) and the Nilgiris (+12·0). The decrease was marked in Ganjām (—39·9), Nellore (—30·1), Kurnool (—30·0), Malabar (—28·6), Bellary (—27·3) and Cuddapah (—26·0). As usual, the incidence of infantile mortality was heaviest in Madras (297·9) against 283·4 in 1912. Chingleput (214·3), Tanjore (212·5), South Arcot (210·5) and Tinnevelly (200·6) showed also considerably large death-rates.

19. A total of 43,288 deaths was registered during the year under report in the 206 rural towns in the Presidency containing over 5,000 inhabitants, against 49,342 in 1912, excluding the figures relating to Hospet. Calculated upon the census population of 1911 these figures represent annual ratios of 19·4 and 22·2 per mille, respectively, the quinquennial average death-rate being 21·5 per mille. Compared with the previous year there was an increase in 75 towns and a decrease in 129, the rates in Tiruvādi and Nāmakkal being the same. The increase was noteworthy in Kadiri (+18·6), Vasudevanallur (+18·5), Ambur (+16·9), Elayangangudi (+14·3), Pallikonda (+14·0) and Alwār Tirunagari (+12·5) and the decrease in Kalyāndrug (—26·6), Achanta (—24·1), Attili (—22·7), Yadiki (—21·2), Valuru (—20·5), Tiruvadamarudur (—20·3) and Madakasira (—20·2). The highest death-rates were recorded in Ambur (55·5), Tiruvottiyūr (52·0), Kadiri (41·7), Alwār Tirunagari (41·2) and Dharmapuri (40·0). These high rates were due to "Plague" in Ambur, to "Fevers" in Tiruvottiyūr, to "Cholera" in Kadiri and to "All other causes" in Alwār Tirunagari and Dharmapuri.

1.	Uravakonda ..	9·8
2.	Tiruppur ...	9·4
3.	Badvel ...	9·2
4.	Villupuram .	9·0
5.	Proddatur... ...	8·7
6.	Vempalli ..	8·3
7.	Kallakurchi ...	8·3
8.	St. Thomas' Mount	8·2
9.	Attili . ..	7·9
10.	Rāyachōti ...	7·7
11.	Pithapuram ...	7·1
12.	Mānāmadurai .	6·9
13.	Tiruppattur ..	6·7
14.	Narsapatam ...	6·4
15.	Jammalamadugu ..	5·8
16.	Kaitur	5·2
17.	Rajampeta ...	4·7
18.	Samalkot	4·3

20. In the marginally-noted eighteen towns, the death-rates were below 10 per mille. There should be some local factor accounting for such low rates. Defective registration of vital statistics in the towns must have played a prominent part in the results reported.

21. The death-rate recorded in the areas in which Act III of 1899 was in force was 21·1 against 20·6 in the non-compulsory areas. In eleven districts the rates were in excess of those returned from the non-compulsory areas, while in nine there was a decrease, the one remaining district (Vizagapatam) showing identical rates. The increase was large in Rāmnād (+11·9), Salem (+11·5) and Gōdāvari (+11·4) and the decrease in Kurnool (—10·1), Kistna (—6·5) and Anantapur (—5·2).

BIRTHS IN MUNICIPALITIES.

22. Including Hospet which was constituted a Municipality during 1913, there were 63 towns in the Presidency under municipal administration where compulsory registration of births and deaths was enforced by the employment of special staffs. These towns contained an aggregate population of 2,605,074 (1,298,273 males and 1,306,801 females) according to the census of 1911. The total number of births registered during the year under report in these areas was 96,419 against 94,543 (including the births returned by Hospet) in 1912. These figures yielded annual birth-rates of 37·0 and 36·3 per mille, respectively, against the quinquennial average of 36·8 per mille. Compared with the birth-rate returned for the year in rural areas, the municipal rate showed an excess of 4·8 per mille due, no doubt, to better registration obtaining in municipal towns. As compared with the previous year, 41 municipal towns showed an increased birth-rate. The increase was noteworthy in Adōni (+22·9), Bellary (+10·0) and Vāniyambādi (+10·0), the reason given for this result being that after the plague scare had subsided in these towns, people returned to their homes freely.

23. Twenty-one towns showed a decrease, the prominent among them being Gudiyāttam (−8·7), Tiruppattūr (−8·4) and Cocanada (−8·3). Kumbakōnam showed the same birth-rate (27·9) in both years. Compared with the quinquennial average the falling-off was most marked in Gudiyāttam (−13·0) obviously due to defective registration there. The highest birth-rates were registered in Salem (55·3), Ellore (52·8), Bellary (52·0) and Tiruppattūr (51·2). In 13 other towns the rates were also large varying from 40·5 in Chingleput to 49·6 in Palni. The birth-rate varied from 40 to 30 per mille in 36 towns and from 30 to 25 per mille in 9 towns. The lowest rate was returned by Gudiyāttam (21·5).

24. I doubt whether registration of vital statistics is carried on satisfactorily even in municipal towns. The question of improving registration in these areas by entrusting the work to private medical practitioners on payment of a small remuneration is now engaging the attention of Government (Memorandum No. 401-M., dated 25th February 1914).

DEATHS IN MUNICIPALITIES.

25. The deaths registered in municipalities during the year numbered 83,121 against 88,663 (including the deaths returned by Hospet) in 1912. These figures represent annual ratios of 31·9 and 34·0 per mille, respectively, the quinquennial average being 34·7 per mille. The fall in the death-rates during the year occurred chiefly under "Cholera" and "Fevers." In contrast with the results of the previous year, the death-rate showed an increase in 17 towns and a decrease in 45, the remaining town Karur returning the same rate of 30·3 per mille. The largest rates were returned by Tiruppattūr (+14·7), Coimbatore (+12·8) and Palni (+12·2). The heavy mortality in the towns of Tiruppattūr and Coimbatore was due to the prevalence of plague. In Palni cholera accounted for a larger number of deaths. The diminution was striking in Vāniyambādi (−38·8), Gudiyāttam (−35·0), Parlakimedi (−19·6), Anantapūr (−16·7) and Cuddapah (−16·1). The comparatively low rates in Vāniyambādi, Gudiyāttam and Cuddapah were due chiefly to fewer deaths from "Cholera" and "Plague" in them. In Parlakimedi and Anantapur "Cholera" was less prevalent during the year under report and this accounted for the low rates recorded. Considered with reference to the quinquennial average, the death-rate showed an increase in 15 towns and a decrease in 47, the remaining town of Cuddalore returning the same rate of 28·8 per mille. Tiruppattūr with a death-rate of 81·1 headed the list, followed by Palni with 61·9 per mille. Death-rates were also high in Coimbatore (43·7), Bellary (43·5), Madras (40·3), Calicut (37·4) and Tinnevelly (35·3). The mortality rates varied from 30 to 35 per mille in 21 towns and from 20 to 30 per mille in 31 towns. The lowest rates were returned by Cuddapah (19·3), Bimilipatam (19·3), Gudiyāttam (19·4) and Rajahmundry (19·9).

26. The total average infantile mortality in the municipalities during 1913 was 238·8 per mille of registered births against 248·2 in 1912. Considered with reference to sex, the mortality among male infants was 252·9 and among female 224·0, or, in other words, in every 100 infantile deaths there were 54·3 males and 45·7 females. Compared with the previous year, there was an increase in 20 towns and a decrease in 43. The increase was over 30 per mille in Hospet (+113·2), Palni (+41·4), Palamcottah (+34·4), Nellore (+33·3), and Tinnevelly (+31·3), while the towns which showed noticeable decreases were Masulipatam (−124·9), Adoni (−114·6), Wallajapet (−86·3), Vāniyambādi (−84·9), Chidambaram (−82·2), Kodaikānal (−75·1), Ellore (−62·8), Parlakimedi (−61·4) and Anantapur (−60·7). Palni returned the highest mortality, viz., 335·9 per mille, followed by Guntūr (319·3), Madras (297·9), Ellore (296·6), Coimbatore (282·7) and Negapatam (276·6). The rate varied from 150 to 275 per mille in 50 towns. Infantile death-rates were lowest in Bimilipatam (120·6), Tellicherry (121·7), Cuddapah (130·3), Mangalore (135·1), Cannanore (136·2), Calicut (145·8) and Vāniyambādi (149·1).

SECTION VI.

GENERAL HISTORY OF CHIEF DISEASES.

CHOLERA.

27. Compared with the previous year, cholera was not so prevalent during the year under report. In 1913, deaths from this cause numbered 37,730 against 92,497, representing annual ratios of 0·9 and 2·3 per mille, respectively, the quinquennial average being 1·9 per mille. In 17 districts, it was a continuation of the epidemic that prevailed in the previous year. During the year, the disease was reported from all the districts of the Presidency and was present all the year round in no less than nine districts. Anantapur and Tanjore suffered most with death-rates of 4·7 and 2·5 per mille, respectively. Compared with 1912, Bellary, Cuddapah, Ganjām and Gōdāvari returned a smaller number of deaths, the mortality rates in these districts being 1·0, 1·2, 0·3, 0·04, respectively, against 8·3, 7·3, 4·6, 3·1 per mille in the previous year. The incidence of cholera mortality was heaviest in the months of January, February, July and December.

28. From 43 mufassal municipalities 1,700 deaths from cholera were reported against 4,811 in 57 towns (including Hospet) in 1912. Rajahmundry, Coonoor, Gudiyāttam and Salem towns returned only one sporadic case each, Chingleput, Cuddapah, Chicacole and Mangalore two each, and Conjeeveram and Berhampur three each, during the year under report. The heaviest mortality from this cause was recorded in Palni, the death-rate there being 19·0 per mille against 5·7 per mille in the previous year. The death-rates were also large in Cochin (5·7), Anantapur (4·5), Karur (3·6) and Tinnevelly (3·3). As compared with the previous year, the towns of Vāniyambādi and Tiruppattūr showed the largest decreases of −22·6 and −18·5 per mille, respectively. Nineteen municipal towns were free from the disease during the year under report.

29. Out of 44,056 towns and villages in the Presidency, deaths from cholera were reported from 4,892 as against 8,562 in 1912.

30. The rules for combating cholera published with G.O. No. 1536 M., dated 9th September 1896, continued to be in operation throughout the year. The Chairmen of the Municipal Councils concerned acted upon the timely warnings and advice given by this office. In the case of towns to which the rules have not been extended, advice was given to employ the additional staffs, etc., on the scales prescribed in these rules in the interests of public health. It is satisfactory to note that such advice was readily and willingly acted upon.

31. The two reserve parties of sanitary inspectors to check the spread of outbreaks of cholera recently sanctioned by Government have been formed since the close of the year. Their operations are practically confined to rural areas and their working is closely watched by this office. It is too soon to say anything of their utility. In the districts in which they have worked, the disease showed signs of abatement before they had been long in them. This may be pure coincidence. Without more experience it is impossible to say whether the parties will prove a success or not. One thing is apparent; the two parties are not enough for the Presidency. There should be more parties even for experimental purposes and the Government will no doubt consider the desirability of adding some more parties, at least two more, to the present number.

32. Permanganate of potash as a means of purifying contaminated sources of water-supply was freely used and continued to be favourably reported on by local medical officers.

33. Since the introduction of piped water-supplies, the mortality from cholera in towns which have a protected water-supply has been continuously on the

decrease. This fact is patent from statement No. XIII appended to the report. The high mortality from this disease in Palni, a town of pilgrimage and noted for festivals, emphasises the necessity of the early introduction of a protected water supply there. Information from a reliable source attributes the spread of the disease in the West Coast districts during the current year to the festival at Palni and every effort should be made to push forward a protected water-supply scheme for this town. The municipal town is a small one and will require assistance to meet the cost. Provision of protected wells as sources of drinking-water along the main pilgrim routes in this Presidency would, in my opinion, considerably reduce the number of deaths from this disease and curtail its spread.

SMALL-POX.

34. Small-pox contributed 14,802 deaths against 16,094 in 1912, representing an annual ratio of 0·4 per mille against the quinquennial average of 0·5 per mille. The disease was reported from all the districts of the Presidency and was continuously present throughout the year in all of them. Only one district, namely, Coimbatore, returned the highest death-rate of one per mille. As vaccination in this district has been backward during recent years, it was thought a change of personnel in the vaccination staff would show better results. Some transfers of Deputy Inspectors of Vaccination and Vaccinators have consequently been effected and it is hoped that with these changes, vaccination would show improvement in the district under notice. Of the deaths registered under this head, 6,674 were under one year of age and 4,617 from 1 to 10 years of age, or 45·1 and 31·2 per cent., respectively, of the total mortality against 39·2 and 30·9 per cent. in 1912. The death-rate among the young during the year was thus higher. It is not possible to reduce this high mortality amongst these subjects unless vaccination is made compulsory throughout the Presidency. The combined system of compulsory vaccination with compulsory registration of births and deaths was looked upon as a solution of the difficulty. The Government, however, have abandoned the scheme of extending the system throughout the Presidency observing that "there are large areas in which its introduction would for the present be inadvisable" (G.O. No. 1814 L., dated 24th October 1913). Sooner or later this compulsory system must be brought about and I am convinced that unless this is done, things will be as unsatisfactory as ever.

35. Seventeen municipal towns enjoyed complete immunity from this disease during the year under report against 27 municipal towns in the previous year. In the remaining 46 towns a total of 855 deaths was registred. In 19 towns where it was prevalent the number of deaths reported did not exceed 4 in each. The death-rate was highest in Guntūr (2·6), followed by Mannārgudi (2·3) and Cochin and Anakapalle (2·0 each).

36. From 3,907 towns and villages small-pox cases were reported against 3,653 in the previous year. In municipal areas the death-rate from this cause was 0·3 per mille while in rural tracts it was 0·4 per mille. The low mortality in urban areas is clearly due to the system of compulsory vaccination obtaining in them.

PLAGUE.

37. During 1913, plague caused 5,130 deaths in 17 districts against 6,651 in 16 in 1912, yielding annual ratios of 0·1 and 0·2 per mille, respectively. Eight districts were completely free from the disease; while in five, there were in all 9 imported cases. In the remaining 12 districts from which indigenous cases of plague were reported, the death-rate was largest in Coimbatore (1·0), followed by North Arcot (0·9) and Bellary (0·6). The disease was present all the year round in the districts of Bellary, Coimbatore and South Canara As compared with the previous year, Bellary showed the largest decline (−1·3 per mille); also the Nilgiris (−0·7 per mille.)

38. One thousand seven hundred and eighty-five deaths from plague were reported during the year from 21 municipal towns against 1,858 from a like number (including Hospet) in 1912. Tellicherry, Cannanore and Bimilipatam returned one imported fatal attack each, Bellary, Conjeeveram, Walajapet, Salem and Trichinopoly two each and Tirupati, Madras and Vāniyambādi three each. The disease was present in an indigenous form in the remaining 10 towns, the total number of deaths reported from them being 1,763. The largest death-rate was recorded in Tiruppattūr (44·3). The death-rates from this cause were also heavy in Coimbatore (12·7), Hospet (6·8), Mangalore (5·8) and Gudiyāttam (5·6). As compared with 1912, Gudiyāttam and Vāniyambādi towns showed the largest decline of −18·7 and −17·4 per mille, respectively.

39. Deaths from plague were reported from 635 towns and villages against 473 in the previous year.

40. As usual the measures adopted for fighting the disease were the employment of observation and preventive staffs in and about the affected areas, disinfection of infected houses and of persons and their effects, segregation of patients and contacts, passporting persons arriving from infected areas and keeping them under surveillance for a period of seven days, destruction of rats by poisoning or trapping or by both processes and inoculation of such persons as were willing to undergo the operation.

41. Ninety-one deaths from plague (Anantapur 1, Vizagapatam 1, Cuddapah 2, the Nilgiris 3, North Arcot 5, Bellary 9, and Coimbatore 70) were recorded during the year under report among persons who had been previously inoculated with anti-plague vaccine against 71 in 1912.

42. Since the close of the year, the old passport system has been replaced by the "notification system." The details of the new system is explained in Memorandum No. 1824-1 P., dated 11th October 1913, printed in G.O. No. 218 P., dated 31st March 1914. This system came into force on 1st June 1914.

FEVERS.

43. A total of 268,024 deaths from fevers was registered during the year against 306,471 in 1912. These figures represent annual ratios of 6·7 and 7·6 per mille, respectively, the quinquennial average being 7·8 per mille. The largest death-rates were registered in Vizagapatam (15·3), Ganjām (12·8), Kurnool (11·6) and Guntūr (10·5). As compared with the quinquennial average there was a decrease in 21 districts and an increase in 3, Bellary returning the same rate of 2·4 per mille. Cuddapah showed the largest decrease of 8·4 per mille. Deaths from this cause were numerous in the cold weather months of the year. The largest number (27,110) was recorded in January. In December also there were 25,979 deaths.

44. Twelve thousand six hundred and sixty-five deaths from this cause were registered in the Municipal towns against 14,281 (including Hospet) in 1912 representing annual ratios of 4·9 and 5·5 per mille, respectively. The mortality rate was largest in Kurnool (15·6) as in the previous year. It was also large in Tirupati (9·1), Tenāli (9·0) and Ellore (8·8). In 22 towns the death-rates varied from 5·0 in Vizagapatam to 8·4 in Nandyal and Vizianagram. As compared with the previous year an increase occurred in 19 towns and a decrease in 42, Madras and Tinnevelly returning the same rates of 7·5 and 2·3 per mille, respectively. Fever mortality in Cuddapah town showed a decline from 4·5 to 2·1 per mille, due evidently to the prohibition of wet cultivation in and around the town and to the anti-malarial operations undertaken during the year at the instance of Major Ross.

45. Out of 44,056 towns and villages in the Presidency, 25,477 reported deaths from this cause against 24,242 in 1912.

MALARIA.

46. Major T. S. Ross, I.M.S., and Captain J. H. Horne, I.M.S., continued to be in charge of malarial operations in the Presidency during the year under report. Major Ross visited several malaria-stricken spots and conducted investigations. The places visited by him during the year were Cumbum and Sidhapuram in the Kurnool district, Waltair and Koraput in the Vizagapatam district, Lower Palnis in the Madura district, the Anamalais in the Coimbatore district and Kallichedu in the Nellore district. His reports clearly show that there is malaria in each of the places visited; and his recommendations for mitigating the evils consequent thereupon were duly forwarded to Government with the support of the Malaria Board. Major Ross paid also flying visits to Ennore to see how the anti-malarial operations started in that area in previous years were progressing. He is confident that, if all his recommendations were given effect to systematically, the disease will completely disappear from Ennore. He also visited Cuddapah with the Piscicultural Expert with the Government of Madras, in connection with the stocking of wells, tanks, etc., there with larvæ-eating fish.

47. Captain Horne conducted a *stegomyia* survey of the ports of Madras, Negapatam and Tuticorin during the year 1913, and his report on the subject was duly forwarded to Government. He also visited Wynaad, an intensely malarious area in the Malabar and Nilgiri districts, in order to ascertain the practicability of an anti-mosquito campaign on the estates and in the villages adjoining. The remedial measures suggested by him were communicated by the Malaria Board for the favourable consideration of Government. Other places visited by him during the year were (1) a malarious strip along the Nellore Coast about 30 miles long where the conditions are very similar to those obtaining at Ennore, and (2) places reported to be malarious in and around Penukonda in the Anantapur district.

48. Two classes of instruction were also held by Captain Horne during the year—one of three weeks' duration for Assistant Surgeons selected for *stegomyia* survey duty and the other a six weeks' course on malaria for Sub-assistant Surgeons to be deputed for duty with travelling dispensaries in malaria-affected districts of the Presidency.

49. Both the Special Malaria officers did useful work during the year under report and deserve credit for the efficient way in which they carried out the malaria investigation work entrusted to them.

DYSENTERY AND DIARRHŒA.

50. Under this head were registered 65,711 deaths in 1913 against 71,913 in 1912, representing annual ratios of 1·6 and 1·8 per mille, respectively. Madras headed the list, as usual, with a mortality rate of 10·2 per mille. It was the highest on record. Death-rates from these causes were also high in the Nilgiris (4·8) and Malabar (3·9). As compared with the previous year there was an increase in 4 districts and a decrease in 15, the death-rates in the remaining 6 districts being identical.

51. In municipalities 14,007 deaths from these causes were recorded during the year against 14,616 (including the figures returned by Hospet) in 1912, yielding annual ratios of 5·4 and 5·6 per mille, respectively. The towns which returned the largest death-rates were Madras (10·2), Periyakulam (9·7), Calicut (9·2) and Palamcottah (8·5). In 16 towns the rates varied from 5·0 in Cochin to 7·8 in Erode. Compared with the previous year there was an increase in 21 towns and a decrease in 37, the rates in the other remaining towns being the same. Compared with the rural death-rate (1·4) the municipal rate showed a large increase of 4·0 per mille. This may be attributed to the greater accuracy in registration secured in municipal towns.

52. Deaths from dysentery and diarrhœa were reported from 11,580 towns and villages against 11,214 in 1912.

RESPIRATORY DISEASES.

53. The deaths registered under this cause aggregated 38,327 against 38,616 in 1912, representing annual ratios of 1·0 and 0·9 per mille, respectively. The death-rate was largest in Madras (5·3) as in previous three years. It was also large in the Nilgiris (3·0) and Anantapur (2·0). As compared with the quinquennial average there was an increase in 16 districts and a decrease in 3, the rates in the remaining districts being identical.

54. In municipalities a total of 6,546 deaths was registered against 6,339 (including deaths returned by Hospet) in 1912, the annual ratios being 2·5 and 2·4 per mille, respectively. The death-rates were largest in Coonoor (7·8), Cochin (7·4), Bellary (7·2), Tellicherry (6·8), Ootacamund (6·0) and Madras (5·3). In 15 towns no deaths from this cause were reported.

55. Out of 44,056 towns and villages 8,981 returned deaths from this cause against 8,367 in 1912.

INJURIES.

56. The casualties under this head amounted to 10,445 which are 412 more than those recorded in 1912. The death-rate from this cause averaged 0·3 per mille. The mortality rate for the municipalities was also 0·3 per mille. As usual, suicides among females were more frequent than among males, the proportion being 121·8 female to every 100 male deaths.

57. Separate figures were first obtained during the year under report about mortality from "Rabies." There were 140 deaths from this cause throughout the Presidency including municipal towns, the number registered in municipalities alone being 33.

ALL OTHER CAUSES.

58. Deaths under this head numbered 416,482 against 440,033 in 1912, the annual ratios being 10·4 and 10·9 per mille, respectively. Nearly one-half of the total number of deaths registered during the year was shown under this elastic head. The death-rate exceeded 10 per mille in 14 districts. Of the 11 districts which showed a death-rate of below 10 per mille, comparatively fewer deaths under this head were registered in Vizagapatam (1·3), Ganjām (2·3), Kurnool (5·0) and Cuddapah (5·6), while the death-rates recorded in these districts under "fevers" were proportionately large. These districts being notoriously subject for malarious infection, deaths appear to have been freely registered under "fevers" without any attempt at an enquiry into the correct cause of death.

59. In municipal towns the death-rate under this head was 17·1 against 17·2 in 1912. It exceeded 20 per mille in 21 towns and was between 10 and 20 per mille in 37 others. The highest rate was recorded in Palni (37·0) and the lowest in Vizianagram (5·8).

SECTION IX.

SANITARY WORKS—CIVIL.

MUNICIPALITIES.

60. The District Municipalities Act was in force in 63 municipalities with an aggregate population of 2,605,074; two major unions, viz., Tiruvālūr and Hospet, were constituted municipalities during the year but the former was not brought under the practical operation of the Act until the current year.

61. Except in the towns provided with a piped water-supply system the condition of water-supply was much the same as in the previous year, the chief sources being wells, tanks, rivers and irrigation channels. Encouraged by the liberal grants given by Government for the improvement of water-supply, Municipal Councils have shown considerable enterprise in endeavouring to secure as pure a supply as possible by abandoning objectionable sources of supply and replacing them by protected wells according to type design, improving existing sources in the case of wells by providing parapet walls, platforms and lead-off drains or otherwise altering them to conform as nearly as possible to type design and in the case of tanks by conserving them in the manner laid down in the Proceedings of the Sanitary Board No. 281/S., dated the 4th May 1912, which, although by no means ideal, affords a fair measure of protection and would be better than nothing especially where wells are not feasible; it is more appropriate for rural areas for which it was primarily intended but has been recommended in the case of certain municipalities where wells yield brackish water and the people show a preference for tanks. Protected wells of one or other of the designs issued by the Sanitary Board must for a long time to come be the only resort in those municipalities that are too poor to finance a piped system and it is towards the furtherance of this object that municipal expenditure should be directed. The quarterly analysis of Municipal water-supplies at the King Institute has been temporarily suspended owing to the pressure of work resulting from the installation of the experimental filters at Guindy.

62. Ootacamund is still the only mufassal municipality which has a comprehensive drainage scheme, but the Municipal Council of the town has not taken full charge of the works, a portion being still in the hands of the Public Works Department. Proposals for improving this system are under consideration. Elsewhere progress has been slow except in Madura and Vellore where the sanctioned schemes have proceeded to execution In none of the other towns where sewerage schemes have been accepted have the schemes advanced beyond the preliminary stages. The condition as to sewage in municipalities is consequently very unsatisfactory and in need of speedy remedy. The only alternative is to fall back upon temporary make-shift arrangements which Municipal Councils are adopting wherever possible to ameliorate conditions by improving existing drains; but the total result is not much. Government have declined, and very rightly, to make grants for the construction of isolated drains unless they formed part of a comprehensive scheme with sewage disposal works, etc. I have discussed the question of open *versus* underground drains and in a joint note with the Surgeon-General I have laid before Government the future policy to be observed in providing for the drainage of towns. Drainage schemes especially in towns

provided with a piped water-supply should be expedited, but I do not see how this is possible with the present engineering staff. The question of increasing the number of Sanitary Engineers is therefore one that should be early considered.

63. The following statement shows the position of municipal water-supply and drainage schemes during the year :—

Water-supply schemes.				Drainage schemes.			
Opened.	Sanctioned.	Under execution.	Under investigation; investigation ordered or plans and estimates submitted or being revised under orders.	Opened.	Sanctioned.	Under execution.	Under investigation; investigation ordered or plans and estimates submitted or being revised under orders.
Adōni. Bezwada. Cocanada. Conjeeveram. Coonoor. Cuddapah. Dindigul Gudiyāttam. Guntūr.	Chingleput.	Berhampur. Chidambaram. Dindigul improvements. Ellore. Kurnool improvements.	Adōni improvements. Anantapur. Bellary. Calicut. Chicacole. Cochin. Coimbatore.	Ootacamund.	*Nil.*	Madura. Vellore.	Adōni. Anakapalle. Bellary. Berhampur. Bezwada. Calicut (partial). Chidambaram. Chingleput. Cocanada.
Kōdaikānal. Kumbakonam (partial). Kurnool. Madura. Nellore. Ootacamund. Periyakulam. Salem. Tanjore. Tirupati. Trichinopoly. Vellore. Vizagapatam.		Masulipatam. Negapatam. Vizianagram.	Conjeeveram improvements. Coonoor improvements. Cuddalore. Cuddapah improvements. Erode. Guntūr improvements. Kumbakōnam (2nd borehole). Madura improvements. Mangalore. Mannārgudi. Nandyal. Ongole. Palni. Parlākimedi. Rajahmundry. Srirangam. Tanjore improvements. Tirupati improvements. Tiruvannāmalai. Trichinopoly improvements. Vizagapatam improvements.				Cochin. Cuddapah. Ellore. Erode. Guntūr. Kumbakōnam. Kurnool. Mangalore. Nandyal. Negapatam. Nellore. Ootacamund improvements. Parlākimedi. Periyakulam. Rajahmundry. Salem. Srirangam. Tanjore. Tenali. Tiruvallūr. Trichinopoly.[1]

[1] Officially opened in January 1914.

64. As regards rubbish and nightsoil conservancy most municipalities still cling to the contract system much to the detriment of effective conservancy. The departmental system showed a slight improvement during the year; it has been newly introduced in Kumbakōnam and in one ward of Trichinopoly where arrangements for extending it to two other wards also are under consideration. In Tanjore where both systems are in force thus affording opportunities for comparison, it is contemplated to replace the contract system by the departmental. It is regrettable that an attitude of utter indifference prevails with regard to this system and that efforts are not made to adopt it on a larger scale. It may not perhaps be financially possible to adopt it wholesale in many of the towns, but there should be little difficulty, I imagine, in the way of its gradual introduction ward by ward as far as funds will permit. If the available balances be carefully scrutinised I feel sure it will be found to be within the capabilities of most municipalities. Provision should be made in the annual budgets for the purchase of as many bullocks as funds will permit and so gradually abolish the contract system

with all its disadvantages. In Negapatam, Adōni, Tuticorin, Palamcottah, Tinnevelly, Berhampur and Chicacole the departmental system is worked with good results and there is no reason why similar success should not be achieved elsewhere.

65. As a result of instructions conveyed from time to time during my inspections a considerable improvement is observable in the stacking and trenching of rubbish and nightsoil and the management generally of the depots. The income realized from the sale of town sweepings and nightsoil was good in the towns of Madura, Vellore, Cuddalore, Tanjore, Adoni, Srirangam, Nellore, Kurnool, Palamcotta, Rajahmundry, Guntūr, Karur, and Ellore, fair in Tinnevelly, Conjeeveram, Coimbatore, Trichinopoly, Cuddaph, Salem, Anantapur, Periyakulum, Ongole, Negapatam, and Erode and insignificant in the rest. Much better results might perhaps be secured if the rubbish and nightsoil depots were parcelled out and sold in convenient lots instead of as a whole; this would enable the small ryot to bid as well as the rich and thus stimulate competition. The practice of cultivating the nightsoil trenching ground is not generally pursued and the ground is allowed to lie fallow in towns where there is no demand among the ryots for nightsoil, much valuable matter thus going to waste. The trenching ground, however, was cropped in the Municipalities of Vizianagram, Cocanada, Palni, Tuticorin and Bellary and reports show that except in Bellary the crops raised grew luxuriantly and were of good quality which fact should serve as an object lesson to the ryots who have a prejudice against using nightsoil on their fields. If other towns followed their example much of the prejudice now prevailing would, I imagine, disappear.

66. During the year instructions were issued in G.O. No. 1678 M., dated the 1st September 1913, for the disposal of rubbish by screening and incineration; but orders were not received in time to be largely availed of before the close of the year. It is hoped that Municipal Councils in towns where the income from the sale of rubbish is small owing to little demand for rubbish for agricultural purposes will see their way to adopting this system which, if properly carried out, is not only economical as to staff and plant but also of immense value in reclaiming ponds and low-lying places.

67. There was a general increase in the strength of the menial conservancy staff, in the number and quality of the plant, latrines and dust bins, which should ensure a more rapid and satisfactory removal of nightsoil and rubbish from the town site and the prevention of indiscriminate fouling of the town site. Deficiencies, in some cases to a considerable extent, exist in individual municipalities, but these are being made good gradually as they are brought to notice in reviewing the budget estimates.

68. The Supervising staff however shows a falling off; but the decrease so far is a satisfactory feature as it occurs entirely among the menial staff of peons and maistries whom Municipal Councils show a tendency to employ in unduly large numbers. I should prefer to see their number still further reduced and the saving thus effected utilised for increasing the strength of sweepers and toties and in improving the plant. There was however a larger number of Sanitary Inspectors and Sanitary Overseers employed in 1913 than in the previous year, viz., 156 and 47, respectively, against 146 and 37. The increase in the number of the former is satisfactory so far and indicates that this class of subordinates is advancing in popularity. It is hoped that this preference for skilled supervision will be maintained and that Sanitary Inspectors will be employed in the proportion and on the salaries prescribed in G.O. No. 901 M., dated the 9th June 1911, in several of the Municipalities where they are still not so employed. As a result of the repeated orders of Government and the representations made by this office, Sanitary Inspectors have now been relieved to a great extent of duties unconnected with sanitation with which they were formerly saddled, thus enabling them to pay greater attention to their legitimate duties. But the sanitary duties of Municipal Sanitary Inspectors had not hitherto been defined and the result was that these subordinates went about with the vaguest idea of what they should and what

they should not do. These duties have now been clearly defined and the rules drawn up for the guidance of Sanitary Inspectors await the sanction of Government.*

69. I do not regard the increase in the number of Sanitary Overseers, who are unqualified men, with equanimity as I am not satisfied that their employment is at all justifiable in the presence of peons and maistries; I consider it a sheer waste of money to employ both classes of subordinates and I have frequently brought this to notice in transmitting proposals for the revision of municipal sanitary staffs. Sanitary Overseers are no other than glorified peons with little to do save as unnecessary intermediaries between the Sanitary Inspectors and the peons and maistries; there can be no objection to their employment provided their duties were confined solely to the supervision of the menial conservancy staff to replace the inferior men now employed; but as at present constituted they stand on debateable ground and are very frequently, for one reason or another, thrust into positions and are assigned duties which pertain only to qualified Sanitary Inspectors and they are thus employed for prolonged periods much to the detriment of sanitary work. Either the peons and maistries or the so-called Sanitary Overseers should disappear from the nomenclature of municipal sanitary organisations. The question of the agency to be employed for supervising the menial conservancy staff is under consideration by Government and when this is decided it is hoped that this defect will no longer exist. †

70. Although the number of public latrines rose in the aggregate from 1,547 in 1912 to 1,637 in the year under report, in 22 towns however the public latrine accommodation fell short of requirements; of these the most backward were Calicut, Madura, Palamcottah, Rajahmundry, Masulipatam, Palghat, Srivilliputtūr, Tiruvannāmalai and Hospet.

71. It is hoped that when the latrines for which grants have been made by Government are constructed, the deficiencies now existing will disappear. There was an increase in the number of type-design latrines; but it is curious to note that whilst Municipal Councils have reduced the number of brick and mud walled enclosures the more objectionable form of taty enclosures show an increase of 14. All forms of enclosures should be abolished and replaced by latrines on the type design issued by the Sanitary Board. The question of the most suitable form of latrine was discussed during the year, and as a result the Sanitary Board whilst retaining the existing forms have issued a cheaper design of open corrugated iron latrine leaving it to local bodies to adopt whichever form suited their requirements best.

72. The private scavenging service was in force in all the municipalities and showed an advance when compared with the previous year, the number of private latrines under municipal service having risen from 110,092 to 116,939 or an increase of 6·2 per cent. The improvement was most noticeable in the towns of Chidambaram, Mannārgudi, Tuticorin, Nandyal, Cuddapah, Tiruvannāmalai and Tellicherry. It is obvious that a large number of houses have no backyard latrines and that very little use had been made of section 207 of the District Municipalities Act. The private latrine accommodation was only 40·5 per cent. of the houses of a class that should possess latrines.

73. Sewage farming was in force in the municipalities of Chicacole, Vizianagram, Anakapalle, Rajahmundry, Bezwada, Guntūr, Tanjore, Kumbakōnam, Negapatam, Mannārgudi, Periyakulam, Dindigul, Tinnevelly, Tuticorin, Karur, Nandyal, Salem and Ootacamund, but little improvement is noticeable either financially or otherwise in most of them. Municipal Councils seem to evince little interest in this profitable and effective method of disposing of the town sullage; for, in spite of advice, the farms are badly laid out and mismanaged. In many instances it is impossible to recognise the site as a sewage farm. No attempt at treatment is made except in Salem where bacterial filters are used and in Ootacamund where disposal works connected with the sewerage system exist. The septic tank and the sewage farm in the latter town have not been working satisfactorily for some time and proposals for improving them are

* NOTE.—Orders have since been passed (G O. No. 760 M., dated 16th April 1914.)

† NOTE.—Orders have since been issued which contain no provision for Sanitary Overseers. The employment of peons and maistries has been recognised (G.O. No. 760 M., dated 16th April 1914).

under consideration. In Vizagapatam, Tanjore and Ootacamund the farms proved profitable concerns but in most other towns they were either worked at a loss or the income was insignificant and not worth considering.

74. The assignment made from municipal revenues for expenditure on sanitation amounted to 46·6 per cent. of the aggregate income of all municipalities and was less than that in the previous year. This is probably due to the liberal grants made by Government in consequence of which municipal funds that might otherwise have been allotted to sanitation were diverted to other purposes. The smallness of the provision was most noticeable in the towns of Anantapur, Kodaikānal, Hospet, Chicacole, Māyavaram, Nellore, Palghat, Wallajapet and Ongole where the sanitary allotment ranged from 17·8 per cent. in Kodaikānal to 29·3 per cent. in Ongole. As regards expenditure, however, it is satisfactory to note that a larger proportion of the allotment was spent during the nine months of the year for which figures are available. In 15 towns the expenditure exceeded 75 per cent. of the allotment; whilst in 47 others it was below 75 per cent., so that the balance was either spent in the remaining three months or had lapsed. The worst cases were Ongole, Karur, Masulipatam and Srivilliputtūr where the expenditure did not amount to even 50 per cent.

75. The work of opening out congested areas and providing extension sites for housing evicted people has not so far made any but slow progress owing to the hesitancy of Municipal Councils to adopt the radical method desired by Government and the various stages of unpreparedness in which the schemes are submitted for want of an efficient engineering staff to draw up intelligent plans Instead of dividing the congested town into convenient blocks and dealing with them in the manner indicated in the order of urgency as far as funds permit, compromises are substituted which afford only partial or no relief at all and what with defective plans and the absence of detailed particulars much delay has occurred and schemes were thus left as they were for long periods unfit for consideration by Government. With the skilled engineering staffs which Government have directed Municipal Councils to employ and to which reference was made in paragraph 67 of last year's report and a better appreciation of the importance of proceeding in a more systematic and businesslike manner on the lines indicated by Government, it is hoped that matters will be expedited in future. During the year rules were prescribed for the laying out of extension sites and the construction of huts and sheds; and certain by-laws were also drawn up to regulate the construction of buildings which Municipal Councils were requested to adopt with such modifications as local conditions required. These should be of considerable help to Municipalities in proceeding in a regular and orderly way; but unfortunately the matter does not end there. The difficulty is with reference to completed schemes and the prevention of opened out areas and new extensions becoming again congested. Under the existing enactment Municipal Councils seemingly have little power and find themselves tied down in this respect. I apprehend grave difficulties will arise sooner or later when opening up and town planning schemes are undertaken on anything like the lines discussed at the All-India Sanitary Conference unless at the same time the Municipal Executive be armed with larger powers to afford them the necessary control. Suitable provisions should therefore be made either in the existing Municipal Act which is under revision or by fresh legislation and the introduction of model building regulations which will enable Municipal Councils to carry out schemes for the relief of congestion and town planning on sound sanitary principles. In other respects most Municipalities have shown considerable enterprise in availing themselves of the aid offered by the sanitation grant and submitted proposals for the improvement of sanitation which, on the whole, were well considered and reasonable. But 21 Municipalities however, either owing to apathy and want of enterprise or through a desire to be left alone, failed to secure a fair share of the distribution since the institution of the grant and they have formed the subject of special investigation and report.

76. The following table gives the information required in G.O. No. 643 M., Mis., dated the 25th March 1914.

Statement showing expenditure incurred in 1913–14 from 45. Civil Works—Provincial funds from April 1913 to March 1914 on several water-supply and drainage works:—

Name of work.	Expenditure to end of March 1914, inclusive of anticipated supply accounts.
1. Extending the Vizagapatam water-supply at Waltair.	7,400
2. Acquiring the land near the water-supply reservoir at Vizagapatam	15,359
3. Improvements to the Guntūr water-works ...	88
4. Water-supply schemes to the town of Masulipatam ...	1,000
5. Water-supply scheme at Ellore	48,802
6. Constructing a drain from the head sluice of Patha Cuddapah tank supply channel to an outlet in Nekkolagundi drain	7,349
7. Extending the Ootacamund drainage works to Kandal bazaar and other places	1,520
8. Connecting the new revenue clerks' quarters on Jail Hill which are now in actual occupation with Ootacamund drainage system	3,694
9. Improvements to the lake stream at Ootacamund ...	2,663
10. Water-supply scheme at Chingleput	1,071
11. Constructing reinforced concrete service reservoirs for Nellore water-works	5.151
12. Extending the pipe lines of the Nellore water-works ...	19,106
13. Kodaikānal water-supply scheme	16,452
14. Improvements to the water-supply scheme at Dindigul.	1,712
15. Relaying the filter beds of water-works, Vellore Fort.	10,124
16. Vellore drainage scheme	5,278
17. Chidambaram water-supply scheme	22,350
18. Madura drainage scheme	2,03,993
19. Preliminary investigation of the Rāmnād water-supply scheme	4,509
20. Deep sealed boring for the Cochin water-supply ...	21,550
21. Purchase of an engine and a boiler in connection with the Tanjore water-works	5,221
22. Investigation of the Varattur scheme for Palni water-supply	36
23. Constructing experimental sand and mechanical filters at the King Institute, Guindy...	4,621
24. Improvements to the water-supply at Cuddapah ...	1,391
25. Improvements to the Kurnool water-works	16,267
26. Rajahmundry water-supply investigation experimental well in Kovur side of the Gōdāvari river	4,269
27. Investigation of water-supply scheme at Hindupur ...	28
28. Investigation of water-supply scheme at Bellary ...	20
29. Borings in Leper Asylum site at Chingleput	1,339
30. Investigation of Tiruvannāmalai water-supply ...	760
31. Converting the existing well into a sanitary well for fixing semi-rotary pumps	286
32. Improvements to rural water-supply in the Anantapur district	7,440
33. Water-supply scheme to the town of Berhampur ...	2,000

DISTRICT BOARDS.

77. The number of District Boards administered under the Local Boards Act, V of 1884, remained the same as in the previous year.

78. The condition of rural sanitation showed some improvement when compared with the previous year as evidenced not only by the greater number of villages conserved but also by the larger budget allotments made for sanitation and the better use made of those allotments. It is hoped this progress will be maintained in coming years. The total number of villages conserved rose from 515 to 555 or an increase of 40 villages where conservancy establishments were employed for the first time. This increase occurs wholly in non-union villages,

the number of conserved unions remaining the same as in the previous year, viz., 389. The improvement of rural water-supplies also received increased attention during the year. It has been decided that every village possessing a population of 500 or over should be provided with a protected well or more as circumstances required. In pursuance of these orders and encouraged by the liberal aid offered by Government from the sanitation grant and the distribution of the five lakhs referred to in paragraph 69 of the report for 1912, several District Boards have selected sites and submitted proposals for providing type-design protected wells and for improving village tanks in the manner laid down by the Sanitary Board. One of the Assistant Sanitary Engineers has also been deputed to visit the Dharmavaram, Kalyandrug and other taluks in the Anantapur district where cholera and guinea-worm prevail, to draw up proposals for constructing wells and improving existing sources of drinking-water supplies. It will thus be seen that the outstanding defect in rural sanitation and the cause of much disease and mortality which was for a long period neglected by local boards on the score of paucity of funds is now being remedied. As regards drainage, however, no material improvement has taken place and matters are in very much the same condition as in last year.

79. The Local Boards Act does not afford sufficient scope, nor are there adequate funds nor the necessary machinery, to undertake effective sanitary measures in rural areas. Nevertheless the future is hopeful. There is an evident desire among the people for better and improved sanitary conditions. This has manifested itself in various ways, as for instance, in the formation of sanitary associations and the levying and administration of fees obtained as purely private contributions for conservancy purposes and improving water-supplies, and the setting aside of sites away from the villages for latrine purposes and for the storage of manure so as to prevent fouling of the surroundings of the village by indiscriminate defœcation and the nuisance and danger arising from the prevalence of flies. These voluntary efforts are worthy of encouragement and they should be fostered and aided.* Efforts are also being made to educate the people and to create a sanitary conscience by means of lectures and lantern slide exhibitions illustrating the importance of sanitation, how it is abused and the evils of such abuse.

80. The control of epidemics has also received attention not only by the prompt measures adopted to check outbreaks of cholera but also by the formation of an epidemic reserve in charge of two Assistant Surgeons which, it is hoped, is the first step towards the creation of a more complete rural sanitary organisation.

81. The major works proposed in rural areas are detailed in the report of the Sanitary Engineer to Government. The minor works carried out by the District Boards consisted as usual of the construction and repair of wells, tanks, drains, latrines, markets and slaughter-houses and improvement of village sites.

82. The allotment for sanitation, which was inadequate, amounted to 9·2 per cent. of the income against 8·2 per cent. in 1912 and the expenditure during the nine months to 51 per cent. against 45·2 per cent. The largest assignment was made by the District Board of Anantapur followed by the Nilgiris and Chittoor. The best use of the funds allotted was made by the District Boards of Rāmnād, Tanjore, Kurnool, South Arcot, Ganjām, South Canara, Vizagapatam, Malabar, North Arcot, Chingleput and Madura which spent more than 50 per cent. of the allotment. In the remaining districts the expenditure was below this proportion, the District Boards of Kistna and Chittoor being the worst with 37·3 and 38·7 per cent., respectively.

Maintenance of village Sanitary Inspection Books.

83. Village sanitary inspection books were maintained in most unions except in the Nilgiri District.

Mecca pilgrimage.

84. Nil.

* NOTE.—Since the above was written, G.O No. 1088 L., dated 13th June 1914, has been received in which Government have requested Presidents of District Boards to report on what principles examples of voluntary effort in the cause of sanitation might be encouraged.

SECTION X.

GENERAL REMARKS AND PERSONAL PROCEEDINGS.

85. I held the appointment of Sanitary Commissioner from the commencement of the year up to the 25th July when I proceeded on three months' privilege leave, my Deputy Captain M. J. Quirke, I.M.S., acting for me during my absence. During the period I was in charge, I proceeded in the early part of January to Tinnevelly and Palamcottah for the inspection of sanitary schemes and to Tuticorin where, in addition to sanitary schemes, the question of a site for a general cemetery engaged my attention. Thence I journeyed to Madura where I examined the sanitary works the municipality had under consideration and made a joint inspection with the Surgeon-General and the Sanitary Engineer of the municipal markets as a result of which the Sanitary Engineer has recently submitted revised type-designs for markets better suited to Indian conditions. Opportunity was at the same time taken to inspect the new water-supply proposals drawn up by the Sanitary Engineer. From the 24th to 30th January I camped at Tiruppattūr and Erode; in the former town for the inspection of sanitary schemes and in the latter to inspect the proposals for a piped water-supply, the extension of municipal limits and sanitary schemes. In February I visited Srirangam to examine certain sanitary works proposed by the Municipal Council and the defective state of registration of births and deaths. In March I proceeded to Narasaraopet to inspect in company with the Sanitary Engineer the water-supply scheme and thence to Guntūr where I examined the proposals for improving the water-supply of the town and discussed the question of the site for a general hospital. The question of the Marlimund reservoir took me to Ootacamund towards the end of April. Thence I returned to Madras and proceeded immediately to Calicut in connection with the sanitary schemes proposed by that municipality. On completion of my duty at Calicut I availed myself of the privilege accorded in G.O. No. 343 L., dated 20th March 1907, and remained at Ootacamund from the 8th May to 7th June. My presence being required in Madras in connection with certain matters affecting the King Institute and the selection of sites for certain public buildings, I returned to Madras on the 8th June. Thence I proceeded to Salem where the question of removing a certain village from the catchment of the Panamārathupatti tank was awaiting my inspection for some time. Inspection showed that the removal of the village was unnecessary and I advised the Chairman accordingly. At the same time I examined the proposals for opening up the fifth division of the municipality and approved of certain extension sites. The Central Jail was also visited. From Salem I proceeded to Ootacamund and Coimbatore, the former with reference to Ootacamund drainage and septic tank and the latter for the inspection of certain sites and schemes on which the Chairman desired my opinion. I then returned to Ootacamund as my presence was required by Government at the Conference which had been arranged for considering the anti-malarial measures to be adopted in Cuddapah. This however unavoidably fell through and I finally returned to Madras on the 20th July.

86. During the period Captain Quirke held charge of the office of Sanitary Commissioner he proceeded to Erode for the inspection of sanitary schemes and extension sites and to Tellicherry with reference to the incinerator at Kunhamparamba and certain burial-ground sites which the Council proposed to acquire. Thence he proceeded to Cannanore where questions connected with the drainage of Burnacherry and Camp Bazaar, the selection of sites for nightsoil trenching-ground concerning which there was a difference of opinion between the Council and the Civil Surgeon, the improvement of water-supply and other matters for

which the Council intended applying for a grant awaited inspection. Before completing his work at Cannanore he was ordered by Government to proceed to Anantapūr for the investigation of a cholera epidemic in the district. He returned to Madras on the 8th August and left the same day for Anantapur where he was engaged on this epidemic work from the 9th to 19th August and inspected the towns and villages detailed in his report embodied in G.O. No. 1862 L., dated 13th October 1913, when he was summoned to Ootacamund to attend the postponed Conference referred to above. On completion of duty at Ootacamund he returned to head-quarters and proceeded on the 15th September to Cannanore to resume his inspection there. From Cannanore a visit was paid to Mangalore where sanitary schemes proposed by the Municipal Council required his presence. On his return from the West Coast he found it necessary to proceed to Ootacamund on the 22nd September returning to head-quarters on the 1st October. He then inspected Vellore and Chittoor in October, the former with reference to a memorial protesting against the site of the sewage farm proposed in the drainage scheme and for the inspection of sanitary schemes and the latter to examine the proposals for a piped water-supply scheme drawn up by the Sanitary Engineer. He visited Adoni on the 20th October for the inspection of sanitary schemes and thereafter availed himself of casual leave.

87. I resumed charge on the 25th October and between this date and the close of the year visited Nellore (sanitary schemes), Hindupur (water-supply), and Rajahmundry where besides inspecting certain sanitary schemes I inspected the proposed head water works, the sites for a new hospital and the Central Jail.

88. Whilst at head-quarters I inspected from time to time various sites for public buildings in Madras city and the site proposed for a sewage farm for the Saidapet drainage scheme. The King Institute at Guindy received my constant attention.

89. Orders were received during the year under report appointing Deputy Sanitary Commissioners under the new scheme (G.O. No. 1416, Public, dated 17th November 1913). Captain M. J. Quirke, I.M.S., was appointed to the Central Range, Dr. K. T. Matthew, D.P.H., D.HY., to the Northern Range and I was placed in charge of the Southern Range in addition to my duties as Sanitary Commissioner. Since the close of the year, I was relieved of these additional duties, Captain Quirke taking them up in addition to his own. Early steps should be taken to appoint a separate officer for the Southern Range and thus bring the scheme to its full operation.

90. Proposals were made during the year for the abolition of the plague passport system and the introduction instead of the notification system; but final orders were passed only in the current year.

91. Much good work was done by Major T. S. Ross, I.M.S., and Captain J. H. Horne, I.M.S., the two special malaria officers, the details of which will be found under "malaria."

92. The training of second-class Health Officers, proposals for educating the people in the importance of sanitation and the prevention of malaria by means of model lessons and lantern slide exhibitions and the formation of an epidemic reserve also engaged my attention. The cholera reserve consisting of two parties of 10 Sanitary Inspectors each in charge of an Assistant Surgeon has since been formed and the result of the experiment will be watched with interest.

93. The scheme for the employment of first and second class Health Officers in the towns specified in paragraph 59 of the report for 1912 was not given effect to owing to certain details not having been settled before the close of the year. The "trial scheme" of vaccination still continues to be in force in the four districts of Madura, South Arcot, North Arcot and Chingleput. The proposals for its extension to other districts which was under consideration for some time have since been negatived by Government. The improvement of the vaccination staffs in the Presidency which depended upon the general extension of the trial scheme and which calls for speedy reform has however been recognized and steps will shortly be taken to put the matter on a more satisfactory footing.

94. Twenty-five Assistant Surgeons qualified as Sanitary Assistants to District Medical and Sanitary Officers and 9 Sanitary Inspectors employed by local bodies took post-graduate course and passed the examination prescribed in G.O. No. 660 L., dated 21st May 1910. Thirty-three Assistant Sanitary Inspectors qualified from the Medical College and 24 passed the examination in Minor Sanitary Engineering. Thus there are now on the rolls 668 Sanitary Inspectors and 194 Assistant Sanitary Inspectors, of whom 406 are employed on sanitation and vaccination work, the rest being employed in various other capacities. Twenty-eight men qualified as vaccinators from the King Institute of Preventive Medicine, Guindy.

95. The checking of stores and the maintenance of the service registers of my office establishment have been duly maintained. I would repeat my remarks in paragraph 82 of my last year's report regarding the increase of work falling upon my office establishment which is below requirements and should be increased.

W. A. JUSTICE, Major, I.M.S.,
Sanitary Commissioner for Madras.

OFFICE OF SANITARY COMMISSIONER,
MADRAS,

APPENDIX.

APPENDIX.

VITAL STATISTICS OF THE GENERAL POPULATION.

No. I.—*Statement showing the Births registered in the districts of the Madras Presidency during the year 1913.*

1	2			3	4			5			6			7	8	9	10		
Number.	Population (exclusive of Europeans and Eurasians) as per census of 1911.			Districts.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during the previous five years.		
	Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.
1	493,945	468,738	**962,683**	Anantapur	493,945	468,738	**962,683**	16,072	15,776	**31,848**	16·7	16·4	**33·1**	101·9	7·6	...	16·1	15·5	**31·6**
2	496,637	485,007	**981,644**	Bellary	496,637	485,007	**981,644**	17,080	16,476	**33,556**	17·4	16·8	**34·2**	103·7	10·7	...	15·9	15·3	**31·2**
3	704,127	699,083	**1,403,210**	Chingleput	704,127	699,083	**1,403,210**	27,730	26,368	**54,098**	19·8	18·8	**38·6**	105·2	14·9	...	19·0	18·2	**37·2**
4	629,232	609,222	**1,238,454**	Chittoor	629,232	609,222	**1,238,454**	19,053	18,364	**37,417**	15·4	14·8	**30·2**	103·8	9·9	...	14·3	14·0	**28·3**
5	1,043,813	1,071,505	**2,115,318**	Coimbatore	1,013,813	1,071,505	**2,115,318**	33,201	32,156	**65,357**	15·7	15·2	**30·9**	103·2	10·4	...	16·4	15·7	**32·1**
6	454,027	439,915	**893,942**	Cuddapah	454,027	439,915	**893,942**	12,761	12,382	**25,143**	14·3	13·8	**28·1**	108·1	10·2	...	12·6	12·3	**24·9**
7	868,822	1,001,819	**1,870,641**	Ganjām Plains	868,822	1,001,819	**1,870,641**	29,291	27,611	**56,902**	15·6	14·8	**30·4**	106·1	13·1	...	...	...	...
	175,779	174,681	**350,460**	Do. Agency	4,373	4,465	**8,838**	151	140	**291**	17·1	15·8	**32·9**	107·8	8·3	...	...	...	...
	1,044,601	1,176,500	**2,221,101**	Total ...	873,195	1,006,281	**1,879,479**	29,442	27,751	**57,193**	15·7	14·7	**30·4**	106·1	13·0	...	14·5	13·6	**28·1**
8	707,297	737,886	**1,445,133**	Gōdāvari Plains... ...	707,297	737,856	**1,445,133**	22,863	21,694	**44,557**	15·8	15·0	**30·8**	105·4	18·6	...	...	..	...
	104,489	102,399	**206,888**	Do. Agency ...	104,489	102,399	**206,888**	2,534	2,354	**4,888**	12·2	11·4	**23·6**	107·6	9·2	...		...	..
	811,786	840,235	**1,652,021**	Total ..	811,786	840,235	**1,652,021**	25,397	24,048	**49,445**	15·4	14·5	**29·9**	105 6	13·0	...	16·8	16·0	**32·8**
9	856,548	840,782	**1,697,330**	Guntūr	856,548	840,782	**1,697,330**	33,816	31,838	**65,654**	19·9	18·8	**38·7**	106·2	16·8	...	18·1	17·1	**35·2**
10	994,802	1,002,452	**1,997,254**	Kistna	994,802	1,002,452	**1,997,254**	38,137	36,546	**74,683**	19·1	18·8	**37·4**	104·4	17·3	...	17·7	16·7	**34·4**
11	491,154	483,305	**974,459**	Kurnool	471,379	463,737	**935,116**	15,304	15,035	**30,339**	16·3	16·1	**32·4**	101·8	13·6	...	15·8	15·3	**31·1**
12	259,002	245,136	**504,138**	Madras	259,002	245,136	**504,138**	9,678	9,276	**18,954**	19·2	18·4	**37·6**	104·3	..	2·7	19·8	18·6	**38·4**
13	945,872	986,134	**1,932,006**	Madura	945,872	986,134	**1,932,006**	27,541	26,303	**53,844**	14·3	13·6	**27·9**	104·7	8·3	...	15·0	14·1	**29·1**
14	1,482,568	1,532,931	**3,015,499**	Malabar *	1,477,128	1,527,771	**3,004,899**	52,479	49,996	**102,475**	17·5	16·6	**34·1**	105·0	7·6	...	18·5	17·6	**36·1**
15	665,011	662,581	**1,327,592**	Nellore	665,011	662,581	**1,327,592**	20,284	19,526	**39,810**	15·3	14·7	**30·0**	103·9	11·5	...	18·1	12·6	**25·7**
16	60,956	53,035	**113,991**	Nilgiris, The	60,956	53,035	**113,991**	1,864	1,654	**3,518**	16·4	14·5	**30·9**	112·7	4·7	...	15·8	15·3	**31·1**
17	969,545	990,387	**1,959,932**	North Arcot	969,545	990,387	**1,959,932**	34,341	32,845	**67,186**	17·5	16·8	**34·3**	104·6	13·0	...	16·4	15·7	**32·1**
18	786,127	872,225	**1,658,352**	Rāmnād	786,127	872,225	**1,658,352**	21,931	20,162	**42,093**	13·2	12·2	**25·4**	108·8	7·9	...	11·6	10·8	**22·4**
19	876,659	889,437	**1,766,096**	Salem	876,659	889,437	**1,766,096**	30,307	29,477	**59,784**	17·2	16·7	**33·9**	102·8	13·2	...	17·1	16·2	**33·3**
20	1,172,341	1,189,400	**2,361,741**	South Arcot	1,172,341	1,189,400	**2,361,741**	35,804	34,372	**70,176**	15·2	14·5	**29·7**	104·2	8·6	...	17·6	16·9	**34·5**
21	577,832	616,896	**1,194,728**	South Canara	577,832	616,896	**1,194,728**	21,366	20,470	**41,836**	17·9	17·1	**35·0**	104·4	11·9	...	17·8	17·1	**34·9**
22	1,122,393	1,239,189	**2,361,582**	Tanjore	1,122,393	1,239,189	**2,361,582**	36,514	34,741	**71,255**	15·5	14·7	**30·2**	105·1	4·1	...	16·8	16·0	**32·8**
23	865,403	924,819	**1,790,222**	Tinnevelly	865,403	924,819	**1,790,222**	32,580	31,485	**64,065**	18·2	17·6	**35·8**	103·5	11·9	..	17·5	16·6	**34·1**
24	1,218,825	1,298,869	**2,517,694**	Trichinopoly	1,022,275	1,083,564	**2,105,839**	32,298	30,787	**63,085**	15·4	14·6	**30·0**	104·9	9·7	..	16·6	15·8	**32·4**
25	1,049,824	1,118,342	**2,168,166**	Vizagapatam Plains ...	1,049,824	1,118,342	**2,168,166**	33,436	32,368	**65,804**	15·4	15·0	**30·4**	103·3	13·0	...	15·3	14·7	**30·0**
	5'1,176	508,901	**1,020,077**	Vizagapatam Agency ...	...	..	...	...	...	..	...	...	...	..	...	..	...	...	...
25	20,584,206	21,245,026	**41,829,232**	Grand Total for the Presidency.	19,679,859	20,325,876	**40,005,735**	658,416	630,202	**1,288,618**	16·5	15·7	**32·2**	104·5	10·8	...	16·4	15·7	**32·1**
269	2,383,240	2,448 155	**4,831,395**	Total of Town circles in the Presidency.	2,383,240	2,448,155	**4,831,395**	80,029	75.303	**155,332**	16·6	15·6	**32·2**	106·3	6·0	...	16·6	15·6	**32·2**
231	18,200,966	18,796,871	**36,997,837**	Total of Rural circles in the Presidency.	17,296,619	17,877,721	**35,174,340**	578,387	554,899	**1,133,286**	16·4	15·8	**32·2**	104·5	11·4	.	16·4	15·7	**32·1**

No. 11.—*Statement of Births and Deaths registered in the districts of the Madras Presidency during the year 1913.*

1	2	3	4	5			6		7			8	9											10		
				Population (exclusive of Europeans and Eurasians) for which returns were received.			Births		Number of deaths registered (exclusive of Europeans and Eurasians and born-dead).				Ratio of deaths per 1,000 of population from											Mean ratio of deaths per 1,000 during previous five years.		
																				All causes.						
Number.	Districts.	Area in square miles.	Average population per square mile.	Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.	Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	Males.	Females.	Total.	Males.	Females.	Total.
1	Anantapur ...	6,718	143·3	493,945	468,738	**962,683**	31,848	33·1	12,577	11,935	**24,512**	105·4	4·7	0·4	0·1	2·7	0·8	2·0	0·4	14·4	25·5	25·5	**25·5**	27·3	27·0	**27·2**
2	Bellary ...	5,875	167·1	496,637	485,007	**981,644**	33,556	34·2	12,070	11,033	**23,103**	103·4	1·0	0·7	0·6	2·4	1·5	1·2	0·3	15·8	24·3	22·7	**23·5**	30·3	29·2	**29·7**
3	Chingleput ...	3,072	456·8	704,127	699,083	**1,403,210**	54,098	38·6	16,927	16,373	**33,300**	103·4	0·2	0·3	0· 01	3·3	2·5	1·0	0·3	16·1	24·0	23·4	**23·7**	21·5	23·0	**24·2**
4	Chittoor ...	5,676	218·2	629,232	609,222	**1,238,454**	37,417	30·2	12,782	12,375	**25,157**	103·3	1·4	0·6	0·04	6·1	1·4	1·4	0·4	9·0	20·3	20·3	**20·3**	20 0	19·9	**20·0**
5	Coimbatore ...	7,196	294·0	1,043,813	1,071,505	**2,115,318**	65,357	30·9	21,870	21,597	**43,467**	101·3	0·9	1·0	1 0	2·7	2·4	1·4	0·3	10·8	21·0	20·2	**20·5**	22·4	20·9	**21·7**
6	Cuddapah ...	5,892	151·7	454,027	439,915	**893,942**	25,148	28·1	8,134	7,892	**16,026**	103·1	1·2	0·3	0·1	8·0	0·8	1·5	0·4	5·6	17·9	17·9	**17·9**	27·2	26·7	**26·9**
7	Ganjām Plains	4,896	382·1	868,822	1,001,819	**1,870,641**	56,902	30·4	16,558	15,847	**32,405**	104·5	0·3	0·3	0·001	12·8	1·1	0·3	0·3	2·2	19·1	15·8	**17·3**	.	...	..
	Do. Agency.	199	44.4	4,373	4,465	**8,838**	291	32·9	100	117	**217**	85·5		1·0	...	21·8	0·1	...	1·2	0 5	22·9	26·2	**24·6**	...	.	..
	Total ...	5,095	368·9	873,195	1,006,284	**1,879,479**	57,193	30·4	16,658	15,964	**32.622**	104·3	0·3	0·3	0·001	12·8	1·1	0·3	0 3	2·3	19·1	15·9	**17 4**	22 6	19·3	**21·0**
8	Gōdāvari Plains	2.545	567·8	707,297	737,836	**1,445,133**	44,557	30·8	12,744	12,171	**24,915**	104 7	0·05	0·1	...	8·3	0·5	0·8	0·2	7·3	18·0	16 5	**17·2**	...	.	.
	Do. Agency.	3,676	56·3	104,489	102,399	**206,888**	4,888	23·6	1,607	1,375	**2 982**	116 9	0 01	0·1	...	9·2	0·4	0·5	0·4	3·8	15·4	13·4	**14·4**	..	...	...
	Total ...	6,221	265·6	811,786	840,235	**1,652,021**	49,445	29·9	14.351	13,546	**27,897**	105·9	0 04	0·1	...	8·4	0 5	0 8	0·3	6·8	17 7	16·1	**16·9**	25·3	23·3	**24·3**
9	Guntūr ..	5,735	296·0	856,548	840,782	**1,697,330**	65,654	38·7	19,350	17,779	**37,129**	105·8	0·04	0·3	...	10·5	0·8	1·0	0·2	9·1	22·6	21·1	**21·9**	22 7	21·5	**22·1**
10	Kistna ...	5,907	338·1	994,802	1,002,452	**1,997,254**	74,683	37·4	20,786	19,424	**40,210**	107·0	0·01	0·3	...	8·4	0·5	1·8	0·2	8·9	20·9	19·4	**20·1**	24·9	23·3	**24·1**
11	Kurnool ...	7,580	123·4	471,379	463,737	**935,116**	30,339	32·4	9,104	8,510	**17,614**	107·0	0·5	0·3		11·6	0·5	0·7	0·2	5·0	19·3	18·3	**18·8**	25·9	24·4	**25 2**
12	Madras ...	27	18,671·8	259,002	245,136	**504,138**	18,954	37·6	10,295	10,027	**20,322**	102·7	0·1	0·1	0·01	7·5	10·2	5·3	0·3	16·8	39·7	40·9	**40·3**	40·3	41·5	**40·8**
13	Madura ...	4,916	393·0	945,872	986,134	**1,932,006**	53,844	27·9	19,616	18,331	**37,947**	107·0	1·5	0·4	0·004	4·2	1·5	0·8	0·3	10·9	20·7	18·6	**19·6**	21·2	18·7	**19·9**
14	Malabar ...	5,795	518·5	1,477,128	1,527,771	**3,004,899**	102,475	34·1	41,019	38,657	**79,676**	106·1	1·4	0·1	0·005	8·5	3·9	1·3	0·4	10·9	27·8	25·3	**26·5**	28·5	26·6	**27·5**
15	Nellore ...	7,973	166·5	665,011	662,581	**1 327,592**	39,810	30·0	12,737	11,808	**24,545**	107·9	0·7	0·5		8·8	1·6	0·2	0·3	6·4	19·2	17·8	**18·5**	21·1	19·7	**20·4**
16	Nilgiris, The ..	1,009	113·0	60,956	53,035	**113,991**	3,518	30·9	1,607	1,382	**2,989**	116·3	0·1	0·3	0·4	8·0	4·8	3·0	0·1	9·5	26·4	26·1	**26·2**	25·7	27·3	**26·4**
17	North Arcot ...	4,920	398·4	969,545	990,387	**1,959,932**	67,186	34·3	20,835	20,968	**41,803**	99·4	1·0	0·7	0·9	2·3	2·5	1·0	0·3	12·6	21·5	21·2	**21·3**	21·5	20·6	**21·0**
18	Rāmnād ...	4,834	343·1	786,127	872,225	**1.658,352**	42,098	25·4	14,578	14,418	**28,996**	101·1	1·0	0·3	...	6·0	1·2	0·7	0·2	8·1	18·5	16·5	**17·5**	19·1	16·8	**17·9**
19	Salem ...	6,300	280·3	876,659	889,437	**1.766,096**	59,784	33·9	18,518	18.126	**36,644**	102·2	0·8	0·5	0·1	5·4	1·1	0·7	0·3	11·8	21·1	20·4	**20·7**	23·9	22·6	**23·3**
20	South Arcot ...	4,208	561·3	1,172,841	1,189,400	**2,361,741**	70,176	29·7	25,396	20,516	**49,912**	103·6	1·2	0·6	...	5·0	1·4	0·8	0·2	11·9	21·7	20·6	**21·1**	24·8	23·4	**24·1**
21	South Canara ...	4,021	297·1	577,832	616,896	**1,194.728**	41,836	35·0	13,954	13,640	**27,594**	102·3	0·3	0·2	0·3	7·6	2·9	0·9	0·4	10·5	24·2	22·1	**23·1**	29·2	26·7	**27·9**
22	Tanjore ...	3,727	633·6	1,122,393	1,239,189	**2,361,582**	71,255	30·2	30,629	31,102	**61,731**	98·5	2·5	0·3	0·02	3·5	1·4	0·5	0·2	17·7	27·3	25·1	**26·1**	29·6	27·0	**28·3**
23	Tinnevelly ...	4,353	411·3	865,403	924,819	**1.790 222**	64,065	35·8	21,389	21,405	**42,794**	99·9	1·2	0·1		4·6	1·2	0·6	0·2	16·0	24 7	23·1	**23·9**	27·1	24·6	**25·9**
24	Trichinopoly ...	4,935	426·7	1,022,275	1,083,564	**2,105.839**	63,085	30·0	21,594	21,245	**42,839**	101·6	0·7	0·4	0·001	4·8	1·0	0·5	0·3	12·6	21·1	19·6	**20·3**	23·7	22·0	**22·8**
25	Vizagapatam Plains.	4,600	471·3	1,049,824	1,118,342	**2,168,166**	65,804	30·4	19,215	18,607	**37,822**	103·3	0·001	0·1	0·0005	15·3	0·4	0·2	0·1	1·3	18·3	16·6	**17·4**	24·3	21·8	**23·0**
	Grand Total for the Presidency.	126.585	316·0	19,679,859	20,325,876	**40,005,735**	1,288,618	32·2	435,991	420,660	**856,651**	103·6	0·9	0·4	0·1	6·7	1·6	1·0	0·3	10·4	22·2	20·7	**21·4**	24·9	23·2	**24·0**
	Total of Town circles in the Presidency.	...	...	2,383,240	2,448,155	**4,831,395**	155,332	32·2	64,898	62,011	**126,409**	103·8	0·9	0 3	0·6	4·6	3·6	1·8	0·3	14·1	27·0	25·8	**26·2**	29·9	28·0	**28·9**
	Total of Rural circles in the Presidency.	...	...	17,296,619	17,877,721	**35,174 340**	1,138,286	32·2	371,598	358,649	**730,242**	103·6	0·9	0·4	0·1	7·0	1·4	0·8	0·3	9·9	21·5	20·1	**20·8**	24·8	22·5	**23·4**

NOTE.—Born-dead cases are not included in this or any of the other statements.

No. III.—*Deaths registered in the districts of the Madras Presidency during each month of the year* 1913.

1	2	3												4
Number.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.
1	Anantapur	2,013	1,449	1,489	1,092	1,681	2,515	3,519	2,502	1,970	1,896	1,875	1,911	24,512
2	Bellary	1,684	1,369	1,490	1,345	1,476	1,696	2,534	2,222	2,018	2,161	2,436	2,372	23,103
3	Chingleput	3,365	2,304	2,587	2,279	2,392	2,622	2,851	2,956	2,641	2,731	3,166	3,403	33,300
4	Chittoor	2,926	1,890	1,657	1,543	1,656	1,867	2,299	2,085	2,054	2,181	2,281	2,718	25,157
5	Coimbatore	5,366	3,953	3,448	2,964	2,816	3,064	3,532	3,386	3,087	3,489	3,992	4,370	43,467
6	Cuddapah	1,751	1,313	911	1,362	1,147	1,152	1,477	1,646	1,290	1,283	1,363	1,331	16,026
7	Ganjām Plains	2,277	1,689	2,346	2,757	2,095	2,673	3,070	3,187	2,872	2,820	2,822	3,197	32,405
	Do. Agency	9	12	1	36	23	12	17	37	19	16	11	24	217
	Total	2,286	1,701	2,347	2,793	2,718	2,685	3,087	3,224	2,891	2,836	2,833	3,221	32,622
8	Gōdāvari Plains	2,729	1,705	1,486	1,074	1,796	1,863	2,339	2,514	2,010	2,466	2,464	2,469	24,916
	Do. Agency	371	269	176	171	154	181	197	115	369	296	359	324	2,982
	Total	3,100	1,974	1,662	1,245	1,950	2,044	2,536	2,629	2,379	2,762	2,823	2,793	27,897
9	Guntūr	3,013	2,135	2,357	2,531	2,801	3,291	3,637	3,921	3,637	3,463	3,093	3,250	37,129
10	Kistna	3,251	2,396	2,482	2,598	3,080	3,321	3,616	4,165	3,837	3,693	3,580	4,188	40,210
11	Kurnool	1,511	1,153	1,090	1,344	1,156	1,234	1,565	1,898	1,563	1,635	1,730	1,735	17,614
12	Madras	2,205	1,784	1,786	1,610	1,594	1,636	1,572	1,594	1,331	1,477	1,555	2,178	20,322
13	Madura	4,274	2,355	2,411	2,554	2,705	2,959	2,915	2,800	2,661	3,000	3,968	5,345	37,947
14	Malabar	11,802	8,143	7,308	6,513	6,023	6,247	7,369	7,122	5,178	4,754	4,380	4,837	79,676
15	Nellore	2,228	1,500	1,587	1,525	1,630	1,850	2,004	2,541	2,441	2,418	2,451	2,370	25,545
16	Nilgiris, The	198	164	205	221	292	346	276	289	238	274	271	215	2,989
17	North Arcot	5,125	3,608	3,302	2,656	2,556	2,627	2,950	3,062	2,954	3,458	4,152	5,353	41,803
18	Rāmnād	3,090	2,237	1,967	1,862	1,849	1,784	2,252	2,103	2,125	2,624	3,011	4,092	28,996
19	Salem	4,330	2,786	2,752	2,521	2,447	2,914	2,901	2,773	2,703	3,130	3,584	3,803	36,644
20	South Arcot	6,310	4,346	3,981	3,591	3,858	3,639	3,059	3,297	3,667	4,156	4,503	4,905	49,912
21	South Canara	4,572	3,004	2,439	1,937	1,764	1,891	2,326	2,083	2,019	1,872	1,673	2,014	27,594
22	Tanjore	8,352	4,998	3,878	3,590	3,810	3,905	4,780	4,935	4,872	5,024	5,973	7,619	61,731
23	Tinnevelly	5,525	3,387	2,890	2,539	2,534	2,658	2,897	2,977	2,771	3,017	4,283	7,316	42,794
24	Trichinopoly	4,084	3,189	2,730	3,196	2,944	3,272	3,717	3,632	3,309	3,747	4,304	4,715	42,839
25	Vizagapatam Plains	3,555	2,731	2,646	2,519	2,829	2,982	3,380	3,544	3,253	3,531	3,004	3,848	37,822
	Total, Madras Presidency	95,916	65,864	61,402	58,830	59,708	64,204	73,051	73,986	66,889	70,615	76,284	89,902	856,651
	Ratio of deaths per 1,000 in each month	2·4	1·6	1·5	1·5	1·5	1·6	1·8	1·9	1·7	1·8	1·9	2·2	21·4

1	2	3		4		5		6		7		8		9		10		11		12	
		Under 1 year.		1 to 4.		5 to 9.		10 to 14.		15 to 19.		20 to 29.		30 to 39.		40 to 49.		50 to 59.		60 and upwards.	
Number.	Districts.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	Anantapur	2,897	2,712	1,075	1,110	643	627	489	436	504	604	1,104	1,546	1,097	1,074	1,275	931	1,267	1,027	2,226	1,868
2	Bellary	3,096	2,545	1,641	1,599	744	658	382	321	401	469	631	1,212	935	949	1,068	705	1,012	771	1,860	1,804
3	Chingleput	6,190	5,404	2,554	2,499	595	603	326	350	535	819	962	1,290	904	889	877	785	1,130	896	2,854	2,838
4	Chittoor	3,123	2,730	1,468	1,350	481	510	397	361	321	564	829	1,257	963	1,001	1,237	984	1,402	1,123	2,561	2,495
5	Coimbatore	6,347	5,537	2,648	2,792	1,170	1,158	939	877	942	1,127	1,610	2,110	1,683	1,066	1,638	1,372	1,504	1,303	3,389	3,625
6	Cuddapah	1,707	1,526	594	582	328	333	250	255	264	387	638	930	730	802	930	720	1,087	841	1,606	1,516
7	Ganjam Plains ...	5,024	4,358	2,188	2,112	841	798	546	435	497	603	1,101	1,238	1,176	1,019	1,313	1,040	1,579	1,513	2,293	2,731
	Ganjam Agency ...	25	30	14	21	4	5	8	12	7	7	12	7	16	6	2	9	6	9	6	11
	Total ...	5,049	4,388	2,202	2,133	845	803	554	447	504	610	1,113	1,245	1,192	1,025	1,315	1,049	1,585	1,522	2,299	2,742
8	Godavari Plains ...	3,777	3,200	1,687	1,685	579	495	448	344	409	542	893	1,134	851	760	874	683	965	774	2,261	2,554
	Godavari Agency...	397	361	220	202	113	104	73	58	66	73	98	119	139	99	157	80	131	93	213	186
	Total ...	4,174	3,561	1,907	1,887	692	599	521	402	475	615	991	1,253	990	859	1,001	763	1,096	867	2,474	2,740
9	Guntur	6,961	5,790	3,245	3,102	860	818	436	445	495	739	971	1,425	962	920	1,001	687	1,120	865	3,296	2,988
10	Kistna	7,897	6,519	2,707	2,484	881	818	527	495	528	868	1,168	1,676	1,071	1.087	1,183	856	1,254	959	3,570	3,662
11	Kurnool	2,451	2,070	1,223	1,204	457	449	254	227	258	333	634	844	595	594	812	594	914	726	1,506	1,469
12	Madras	2,975	2,671	1,000	1,647	474	413	248	233	250	267	777	864	716	624	782	610	730	655	1,743	1,943
13	Madura	5,179	4,288	2,964	2,914	892	937	542	464	618	648	1,487	1,681	1,444	1,317	1,648	1,164	1,530	1,265	3,312	3,653
14	Malabar	9,258	7,935	7,160	7,216	2,692	2,537	1,361	1,151	1,167	1,245	3,282	3,667	3,806	3,562	3.539	2,480	3,282	2,339	5,472	6,495
15	Nellore	2,916	2,460	1,524	1,385	7[illegible]5	687	551	586	659	830	949	1,028	795	757	843	630	984	852	2,748	2,593
16	Nilgiris, The... ...	369	300	346	334	69	52	52	61	59	37	4	144	169	148	127	83	108	81	174	142
17	North Arcot	5,891	5,269	3,478	3,617	1,140	1,171	710	710	713	1,033	1,219	1,678	1,244	1,370	1,195	1,079	1,331	1,161	3,914	3,880
18	Ramnad	3,506	2,966	2,336	2,269	636	646	359	405	382	593	1,025	1,260	1,081	1,101	1,180	994	1,300	1,114	2,773	3,070
19	Salem	6,207	5,177	2,388	2,300	796	785	565	620	573	745	1,096	1,401	1,152	1,187	1,372	1,081	1,428	1,354	2,951	3,086
20	South Arcot	7,786	6,984	4,263	4,280	1,168	1,275	947	886	1,026	1,195	1,528	1,960	1,436	1,579	1,685	1,380	1,680	1,448	3,582	3,534
21	South Canara ..	3,822	3,255	1,558	1,665	506	562	387	328	447	539	1,089	1,495	1,302	1,190	1,383	975	1,288	1,068	2,115	2,563
22	Tanjore	8,289	6,854	3,344	3,325	1,337	1,245	862	771	903	1,342	2,219	3,209	2,612	2,577	2,519	2,178	2,568	2,184	5,976	7,417
23	Tinnevelly	6,795	6,059	3,642	3,880	955	920	577	501	532	731	1,220	1,571	1,282	1,331	1,423	1,115	1,489	1,283	3,474	3,924
24	Trichinopoly	6,550	5,481	3,113	3,028	924	865	557	524	544	826	1,129	1,709	1,269	1,410	1,520	1,158	1,623	1,432	4,359	4,802
25	Vizagapatam Plains.	5,172	4,543	2,585	2,481	1,026	864	648	515	506	6[illegible]4	1,305	1,377	1,484	1,385	1,684	1,397	1,800	1,658	2,995	3,533
	Total, Madras Presidency ..	124,646	107,824	61,516	61,113	21,403	20.335	13,414	12,461	13,666	17,930	29,395	38,152	30,914	30,104	33,267	25,770	34,512	28,789	73,299	78,382
	Total population according to the census of 1911 ...	567,721	583,072	2,084,198	2,168,505	2,639,865	2,[illegible],309	2,429,211	2,243,765	1,747,599	1,737,429	3,105,763	3,618,672	2,636,246	2,754,611	2,087,965	2,076,681	1,343,514	1,355,679	1,141,123	1,264,451
	* Ratio per mille of population ...	219·6	184·1	2[illegible]·5	28·2	8·1	7·6	5·5	5·6	7·8	10·3	9·2	10·5	11·7	11·0	15·9	12·4	25·7	21·2	61·2	62·0

* Calculated on the total population for the Presidency as per census of 1911 including Europeans and Eurasians though the statistics are exclusive of Europeans and Eurasians and born-dead cases.

No. V.—*Deaths registered according to Classes in the districts of the Madras Presidency during the year* 1913.

1	2	3					4					5				
		Population for which returns were received.					Number of deaths registered.					Ratio of deaths per 1,000 of population.				
Number.	Districts.	Indian Christians.	Muhammadans.	Hindus.	Other classes.	Total	Indian Christians.	Muhammadans.	Hindus.	Other classes.	Total.	Indian Christians.	Muhammadans.	Hindus.	Other classes.	Total.
1	Anantapur	3,096	80,048	876,471	3,068	962,683	41	1,952	22,417	102	24,512	13·2	24·4	25·6	33·2	25·5
2	Bellary	3,234	96,211	880,640	1,529	981,644	85	2,236	20,641	141	23,103	26·3	23·2	23·4	92·2	23·5
3	Chingleput	27,579	31,604	1,342,378	1,649	1,403,210	383	656	32,091	170	33,300	13·9	20·8	23·9	103·1	23·7
4	Chittoor	4,270	59,183	1,166,417	8,554	1,238,454	37	1,032	24,005	83	25,157	8·7	17·4	20·6	9·7	20·3
5	Coimbatore	18,304	43,100	2,051,778	2,136	2,115,318	331	894	42,178	64	43,467	18·1	20·7	20·6	30·0	20·5
6	Cuddapah	22,352	99,116	769,061	3,413	893,942	282	1,535	14,014	195	16,026	12·6	15·5	18·2	57·1	17·9
7	Ganjām Plains	2,182	5,425	1,810,132	52,902	1,870,641	13	81	32,267	44	32,405	6·0	14·9	17·8	0·8	17·3
	Ganjām Agency	.	. .	3,644	5,194	8,838	...	...	217	...	217	...	...	59·5	...	24·6
	Total ...	2,182	5,425	1,813,776	58,096	1,879,479	13	81	32,484	44	32,622	6·0	14·9	17·9	0·8	17·4
8	Gōdāvari Plains	7,416	24,447	1,412,861	409	1,445,133	77	334	24,482	22	24,915	10·4	13·7	17·3	53·8	17·2
	Gōdāvari Agency	1,602	2,580	182,451	20,255	206,888	9	40	2,928	5	2,982	5·6	15·5	16·0	0·2	14·4
	Total ..	9,018	27,027	1,595,312	20,664	1,652,021	86	374	27,410	27	27,897	9·5	13·8	17·2	1·3	16·9
9	Guntūr	123,486	117,272	1,447,410	9,162	1,697,330	2,183	2,441	32,427	78	37,129	17·7	20·8	22·4	8·5	21·9
10	Kistna	49,582	70,733	1,875,458	1,481	1,997,254	693	1,416	38,101	...	40,210	14·0	20·0	20·3	...	20·1
11	Kurnool	41,985	120,770	770,172	2,189	935,116	651	2,278	14,559	126	17,614	15·5	18·9	18·9	57·6	18·8
12	Madras	27,292	59,169	415,910	1,767	504,138	914	2,611	16,794	3	20,322	33·5	44·1	40·4	1·7	40·3
13	Madura	59,684	76,558	1,795,753	11	1,932,006	1,068	1,870	35,014	...	37,947	17·8	24·4	19·5	...	19·6
14	Malabar	51,580	943,024	2,009,654	641	3,004,899	1,425	25,179	53,013	59	79,676	27·6	26·7	26·4	92·0	26·5
15	Nellore	43,738	81,799	1,136,263	65,792	1,327,592	620	1,574	21,949	402	24,545	14·2	19·2	19·3	6·1	18·5
16	Nilgiris, The	12,716	5,877	93,914	1,484	113,991	308	175	2,261	245	2,989	24·2	29·8	24·1	165·1	26·2
17	North Arcot	31,794	117,909	1,801,355	8,874	1,959,932	344	3,305	37,915	239	41,803	108·2	28·0	21·0	26·9	21·3
18	Rāmnād	76,576	120,220	1,461,531	25	1,658,352	910	2,682	25,404		28,996	11·9	22·3	17·4	...	17·5
19	Salem	14,419	43,424	1,708,241	12	1,766,096	308	829	35,507	...	36,644	21·4	19·1	20·8	...	20·7
20	South Arcot	66,611	66,986	2,223,171	4,973	2,361,741	870	1,039	47,727	276	49,912	13·1	15·5	21·5	55·5	21·1
21	South Canara	95,530	140,700	949,427	9,071	1,194,728	1,696	2,692	23,009	197	27,594	17·8	19·1	24·2	21·7	23·1
22	Tanjore	88,707	131,042	2,141,196	637	2,361,582	2,289	3,623	55,704	115	61,731	25·8	27·6	26·0	180·5	26·1
23	Tinnevelly	175,492	105,474	1,509,224	32	1,790,222	3,779	2,538	36,474	3	42,794	21·5	24·1	24·2	93·7	23·9
24	Trichinopoly	86,163	65,753	1,953,852	71	2,105,839	1,898	1,438	39,503	...	42,839	22·0	21·9	20·2	...	20·3
25	Vizagapatam Plains	3,473	21,781	2,141,249	1,657	2,168,166	30	191	37,506	95	37,822	8·6	8·8	17·5	57·3	17·4
	Total, Madras Presidency	1,138,869	2,730,235	35,929,643	206,988	40,005,735	21,239	64,641	768,107	2,664	856,651	18·6	23·7	21·4	12·9	21·4

No. VI.—*Births and Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1913.

1	2	3	4		5	6	7	8	9	10	11						12	13	14									
			Births.								Injuries.								Ratio of deaths per 1,000 of population.									
											Suicides.																From all causes.	
Numbers.	Districts and towns.	Population for which returns were received.	Total number.	Birth-rate per mille of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Males.	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean for previous 5 years.
	A.—Rural Districts.																											
1	Anantapur	848,393	28,973	34·2	3,916	359	44	2,338	686	1,688	22	42	143	132	...	339	12,699	22,009	4·6	0·4	0·05	2·8	0·8	2·0	0·4	15·0	26·0	27·8
2	Bellary	637,001	28,084	33·6	930	631	245	1,814	1,010	823	18	22	136	48	...	224	12,985	18,762	1·1	0·7	0·1	2·2	1·2	1·0	0·3	15·5	22·4	29·5
3	Chingleput	1,204,319	47,782	39·7	183	382	.	3,830	2,056	[illegible]79	15	17	156	52	...	240	19,973	28,243	0·2	0·3	...	3·2	2·2	0·8	0·2	16·5	23·4	24·9
	Chittoor	1,171,191	35,813	30·6	1,615	667	50	7,103	1,618	1,[illegible]	14	28	317	98	5	462	10,372	23,661	1·4	0·6	0·04	6·1	1·4	1·4	0·4	8·9	20·2	19·7
5	Coimbatore	1,939,903	60,200	31·1	1,736	2,037	1,280	5,470	4,161	2,711	36	52	360	148	17	613	10,550	38,758	0·9	1·1	0·7	2·8	2·3	1·4	0·3	10·5	20·0	21·2
6	Cuddapah	794,104	23,556	29·7	1,079	282	53	6,960	673	1,265	19	37	188	51	...	295	4,460	15,067	1·4	0·3	0·1	8·8	0·8	1·6	0·1	5·6	19·0	28·3
	Ganjam Plains	1,772,964	51,000	30·5	510	621	1	23,236	1,787	459	35	55	215	139	...	444	3,413	30,474	0·3	0·4	0·001	13·1	1·0	0·3	0·2	1·9	17·2	...
7	Ganjam Agency	8,838	291	32·9	...	9	..	193	1	..	...	...	1	9	...	10	4	217	...	1·0	...	21·8	0·1	...	1·2	0·5	24·6	...
	Total ...	1,781,802	54,291	30·5	510	633	1	23,429	1,788	459	35	55	216	148	...	454	3,417	30,691	0·3	0·4	0·001	13·1	1·0	0·3	0·2	1·9	17·2	20·7
	Gódāvari Plains	1,254,595	39,428	31·4	69	91	...	10,963	524	1,092	18	31	128	93	...	270	8,605	21,524	0·05	0·1	...	8·8	0·4	0·8	0·2	6·9	17·2	...
8	Godāwari Agency ..	206,888	4,888	23·6	3	13	...	1,612	86	103	...	2	22	59	...	83	782	2,982	0·01	0·1	...	9·2	0·4	0·5	0·4	3·8	14·1	...
	Total ...	1,461,483	44,316	30·3	72	104		12,875	610	1,105	18	33	150	152	...	353	9,387	24,506	0·05	0·1	...	8·8	0·4	0·8	0·2	6·5	16·8	24·3
9	Guntur	1,535,281	59,916	39·0	64	312	...	16,649	1,133	1,460	19	28		76	1	330	13,063	33,011	0·04	0·2	...	10·8	0·7	1·0	0·2	8·6	21·5	21·4
10	Kistna	1,767,684	67,583	38·2	20	432	...	15,797	819	3,277	17	42	187	62	4	262	14,821	35,458	0·01	0·2	..	8·9	0·5	1·9	0·2	8·4	20·1	23·4
11	Kurnool	836,502	28,463	32·1	498	280	..	10,280	278	598	17	18	121	39	1	196	4,214	16,284	0·6	0·3	...	11·6	0·3	0·6	0·2	4·8	18·4	24·8
12	Madura	1,669,765	44,525	26·7	2,112	643	8	6,610	1,898	1,312	13	36	251	110	...	470	16,804	29,857	1·3	0·4	0·005	4·0	1·1	0·8	0·3	10·0	17·9	18·5
13	Malabar	2,770,383	93,492	33·7	4,135	329	5	24,583	10,234	3,438	52	40	574	215	40	921	28,519	72,464	1·5	0·1	0·002	8·9	3·7	1·3	0·3	10·4	26·2	27·0
14	Nellore	1,233,853	37,005	30·0	770	649	.	11,128	1,941	159	53	53	198	65	7	376	7,270	22,373	0·6	0·5	.	9·0	1·6	0·2	0·3	5·9	18·1	20·1
15	Nilgiris, The	79,211	2,185	27·6	7	28	18	571	413	150	..	...	5	...	...	5	500	1,992	0·1	0·3	0·2	11·0	5·2	1·9	0·1	6·3	25·1	25·2
16	North Arcot	1,719,089	59,151	34·4	1,830	1,213	200	4,160	4,180	1,771	23	18	269	131	6	417	21,027	34,918	1·1	0·7	0·2	2·4	2·4	1·0	0·3	12·2	20·3	20·4
17	Ramnad	1,358,141	33,787	24·9	1,300	147	...	8,542	1,331	958	16	17	167	7	...	207	10,329	23,117	1·0	0·3	...	6·3	1·0	0·7	0·1	7·6	17·0	17·2
18	Salem	1,652,281	54,827	33·2	1,367	945	68	9,342	1,663	1,006	31	37	306	118	...	492	18,705	33,588	0·8	0·6	0·01	5·7	1·0	0·6	0·3	11·3	20·3	22·5
19	South Arcot	2,169,365	65,285	30·1	2,652	1,293	...	11,969	2,935	1,681	53	39	219	170	.	481	25,413	46,074	1·2	0·6	...	5·1	1·4	0·8	0·2	11·9	21·2	24·0
20	South Canara	1,121,790	39,388	35·1	370	223	29	8,975	3,277	983	25	27	320	80	7	459	11,615	25,911	0·3	0·2	0·03	8·0	2·9	0·9	0·4	10·4	23·1	27·7
21	Tanjore	1,988,336	59,735	30·0	5,224	594	1	6,519	2,162	731	34	45	261	164	6	510	34,773	50,494	2·6	0·3	0·001	3·3	1·0	0·4	0·3	17·5	25·4	27·7
22	Tinnevelly	1,352,349	49,673	36·7	1,604	88	...	6,654	901	460	13	32	197	25	..	267	22,250	32,224	1·2	0·1	...	4·9	0·7	0·3	0·2	16·4	23·8	25·8
23	Trichinopoly	1,881,506	55,332	29·5	1,165	887	..	9,222	1,440	932	15	36	252	205	8	546	22,715	36,927	0·6	0·5	...	4·9	0·8	0·5	0·3	12·0	19·6	22·2
24	Vizagapatam Plains ...	1,950,075	59,664	30·6	3	104	...	31,283	265	751	12	23	180	60	.	275	1,602	33,783	0·002	0·1	...	16·0	0·1	0·1	0·1	0·9	17·3	22·9
	Total, Rural districts ...	35,174,340	1,133,286	32·2	33,192	13,562	2,192	245,553	48,375	[illegible]851	[illegible]30	777	5,329	2,386	102	9,[illegible]24	348,293	730,212	0·9	0·4	0·1	7·0	1·4	1·8	0·3	9·9	20·8	25·4

NOTE.—Statistics of mortality from rabies are exhibited in a separate sub-column under "Injuries" of the annual Form No. VI as per G.O. No. 1133 L., dated 7th July 1913.

No. VI.—*Births and Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1918—cont.

1	2	3	4		5	6	7	8	9	10	11						12	13	14									
			Births.								Injuries.								Ratio of deaths per 1,000 of population.									
											Suicides.																From all causes.	
Number.	Districts and towns.	Population for which returns were received.	Total number.	Birth-rate per mille of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Males.	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean for previous 5 years.
	B.—Towns.																											
	Anantapur—																											
1	M.T.C. Anantapur	8,457	305	36.1	38	4	...	50	11	26	...	..	2	...	..	2	117	228	4·5	0·5	...	3·5	1·3	3·1	0·2	13·9	27·0	33·8
2	T.C. Tadpatri	12,598	316	25·1	33	1	..	95	8	19	..		...	...	...	.	125	281	2·6	0·1	...	7·5	0·6	1·5	...	10·0	22·3	30·6
3	T.C. Hindupur	11,035	197	17·9	15	...	56	11	4	1	...	...	1	...	...	1	90	178	1·3	...	5·1	1·0	0·4	0·1	0·1	8·1	16·1	20·0
4	T.C. Uravakonda ...	11,026	252	22·9	...		...	1	...	14	...	.	...	...	...	...	93	108	...	...	..	0·1	...	1·3	...	8·4	9·8	22·0
5	T.C. Kadiri	10,456	329	31·5	227	22	...	38	17	10	.	...	4	1	...	6	117	136	21·7	2·1	...	3·6	1·6	1·0	0·5	11·2	41·7	21·4
6	T.C. Gooty	9,597	138	14·1	13		.	5	4	38	..	...	...	2		2	49	111	1·4	..	...	0·5	0·4	4·0	0·2	5·1	11·6	18·2
7	T.C. Bukkapatnam ...	9,181	101	11·0	71	...	...	13	5	12	...	...	...	...	.	.	29	130	7·5	...	...	1·4	0·5	1·3	...	3·0	13·7	12·4
8	T.C. Yadiki	7,835	245	31·3	1	1	...	...	...	.	...	...	.	...	...	...	153	155	0·1	0·1	...	...	...	. .	...	19·6	19·8	37·2
9	T.C. Pamidi	7,737	225	29·1	42		2	14	13	48	...	...	...	...	...	..	62	181	5·4	...	0·3	1·8	1·7	6·2	...	8·0	23·4	16·6
10	T.C. Dharmavaram ...	7,386	183	24·8	140	...	...	...	...	3	..	...	...	...	...	...	89	232	19·0	...	...	...	. .	0·4	...	12·0	31·4	22·8
11	T.C. Penukonda	6,725	233	34·6	14	...	...	18	13	2	...	...		...	...	...	135	212	6·5	...	...	2·7	1·9	0·3	. .	20·1	31·5	31·0
12	T.C. Kalyandrug	6,650	205	30·8	4	...		20	13	31	...	...	...	...	...	...	51	119	0·6	...	...	8·0	2·0	4·7	...	7·6	17·9	25·5
13	T.C. Madakasira	5,303	143	27·0	...	2	13	2	...	..	...	...	2	. .	...	2	53	72	...	0·4	2.4	0·4	...	...	0·4	10·0	13·6	19·4
	Bellary—																											
14	M.T.C. Bellary	34,956	1,819	52·0	14	35	2	110	193	250	...	3	13	1	...	17	901	1,622	0·4	1·0	0·1	3·1	5·5	7·2	0·5	25·7	43·5	38·6
15	M.T.C. Adoni	31,645	*1338	42·3	...	43	...	108	77	.	...	...	10	1	...	11	692	931	...	1·4	..	3·4	2·4	...	0·3	21·9	29·4	29·8
16	M.T.C. Hospet	17,671	467	26·4	21	...	120	40	90	18	...	...	2	1	...	3	226	521	1·4	...	6·8	2·3	5·1	1·0	0·2	12·7	29·5	24·5
17	T.C. Yemmiganuru ...	15,873	441	27·8	3	1	...	135	13	43	1	1	...	...	...	2	71	268	0·2	0·1	...	8·5	0·8	2·7	0·1	4·5	16·9	25·3
18	T.C. Harpanahalli ...	8,598	337	37·9	20	1	...	41	22	7	1	...	1	1	...	3	125	232	3·4	0·1	...	4·9	2·5	0·8	0·3	14·1	26·1	29·1
19	T.C. Rayadrug	8,827	213	24·1	...	29	...	1	1	...	...	1	1	...	...	2	93	126	...	3·3	...	0·1	0·1	...	0·2	10·6	14·3	21·3
20	T.C. Kampli	7,636	155	20·3	...	...	93	5	4	1	...	...	...	2	...	2	63	168	...	...	12·2	0·7	0·5	0·1	0·3	8·2	22·0	30·4
21	T.C. Kosgi	6,907	290	42·0	5	...	..	8	31	3	...	1	...	...	.	1	187	235	0·7	...	...	1·2	4·5	0·4	0·1	27·1	34·0	29·0
22	T.C. Kotturu	6,522	265	40·6	6	...	...	19	10	2	...	..	1	1	...	2	157	196	0·9	...	...	2·9	1·6	0·3	0·3	24·1	30·1	41·5
23	T.C. Siruguppa	5.708	117	25·8	...	...	9	34	5	12	...	.	...	..	...	...	82	142	...	...	1·6	6·0	0·9	2·1	...	14·3	24·9	30·2
	Chingleput—																											
24	M.T.C. Conjeeveram ...	53,861	2,253	41·8	3	24	2	64	300	211	...	...	14	2	2	18	1,176	1,798	0·1	0·1	0·04	1·2	5·6	3·9	0·3	21·9	33·4	32·1
25	M.T.C. Chingleput ...	11,626	471	40·5	2	1	...	36	68	...	..		11	...	..	11	200	318	0·2	0·1	...	3·1	5·9	..	0·9	17·2	27·4	33·3
26	T.C. Sembiam	21,325	303	14·2	...	...	...	48	75	41	...	..	...	...	.	...	111	275	...		...	2·3	3·5	1·9	...	5·2	12·0	19·9
27	T.C. Poonamallee ...	16,342	540	33·0	31	...	...	99	65	65	...	...	2	...	...	2	82	344	1·9	...	...	6·1	4·0	4·0	0·1	5·0	21·1	28·1
28	T.C. Saidapet	15,635	452	28·9	...	1	...	71	30	2	...	..	6	1	...	7	198	309	...	0·1	...	4·5	1·9	0·1	0·5	12·7	19·8	27·7
29	T.C. St. Thomas' Mount (C.).	15,604	165	10·6	2	1	...	44	10	6	...	...	1	...	...	1	64	128	0·1	0·1	...	2·8	0·6	0·4	0·1	4·1	8·2	9 5
30	T.C. Uttaramerur ...	12,672	411	32·4	6	2	...	80	100	34	...	...	4	2	...	6	159	387	0·5	0·1	...	6·3	7·9	2·7	0·5	12·5	30·5	28·8
31	T.C. Tiruvallur	9,576	388	40·5	3	4	...	53	47	28	...	..	6	...	...	6	146	287	0·3	0.4	...	5·6	4·9	2·9	0·6	15·3	30·0	25.9
32	T.C. Tiruvottiyur ...	9,409	188	20·0	...	3	...	234	89	10	1		2	...	...	3	150	489	...	0.3	...	24·9	9·5	1·1	0·3	15·9	52·0	31·5
33	T.C. Pallavaram (C.) ...	7,059	83	11·8	1	...	...	2	...	...	...	.	...	...	...	...	70	73	0·1	...	...	0·3	...	...	...	9·9	10·3	8·5
34	T.C. Tirukkalikunram ...	6,838	213	31·1	...	4	...	55	18	5	...	.	. .	...	...	...	45	127	...	0·6	...	8·1	2·6	0·7	...	6·6	18·6	24·2
35	T.C. Madurantakam ...	6,499	306	47·1	5	4	...	27	22	2	1	.	1	1	...	3	126	189	0·8	0·6	...	4·2	3·4	0·3	0·5	19·3	29·1	30·4
36	T.C. Sriperumbudur ...	6,129	354	57·8	...	2	...	40	36	11	...	.	...	...	...	...	145	234	...	0 3	...	6·5	3·9	1·8	...	23·7	38·2	27·7
37	T.C. Cheyur	6,083	189	31·1	2	3	...	6	7	5	...	. .	...	...	...	...	76	99	0·3	0·5	...	1·0	1·2	0·8	...	12·5	16·3	11·1
	Chittoor—																											
38	M.T.C. Tirupati	16,701	451	27·0	11	1	3	152	49	1	...	...	3	3	...	6	233	456	0·6	0·1	0·2	9·1	2·9	0·1	0·4	13·9	27·3	37·9
39	T.C. Chittoor	15,108	464	30·7	50	58	1	84	34	45	1	2	6	1	...	10	156	438	3·3	3 8	0·1	5·6	2·2	3·0	0·7	10·3	29·0	27 2
40	T.C. Madanapalle ...	14,433	146	10·1	71	1	...	16	22	7	...	...	2	...	...	2	69	198	4·9	0·1	...	1·1	1·5	0·5	0·1	4·8	13·0	10·8
41	T.C. Kalahasti	12,939	316	24·4	16	...	...	71	3	4	...	...	...	...	...	...	141	235	1·3	...	...	5·5	0·2	0·3	...	10·9	18·2	24·7
42	T.C. Punganur	7,782	227	29·2	1	...	...	8	7	16	1	2	...	1	...	4	148	179	0·1	...	...	1·0	0·9	2·1	0·5	18·4	23·0	27·0
	Coimbatore—																											
43	M.T.C. Coimbatore ...	47,007	1,779	37·8	9	12	595	8	329	112	1	..	16	3	2	22	963	2,055	0·2	0·2	12·7	0·2	7·0	2·4	0·5	20·5	43·7	40·5

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No. VI.—*Births and Deaths registered from Different Causes in the [illegible]icts and towns of the Madras Presidency during the year* 1913—cont.

1	2	3	4		5	6	7	8	9	10	11						12	13	14									
Number.	Districts and towns.	Population for which returns were received.	Births. Total number.	Births. Birth-rate per mille of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries. Suicides. Males.	Injuries. Suicides. Females.	Injuries. Wounds and accidents.	Injuries. Snake-bite and killed by wild beasts.	Injuries. Rabies.	Injuries. Total.	All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population. Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	From all causes. For the year.	From all causes. Mean of previous 5 years.
	B.—Towns—cont.																											
	Coimbatore—*cont.*																											
44	M.T.C. Erode	16,701	658	39·4	12	16	...	36	130	42	...	1	2	1	1	5	208	449	0·7	1·0	...	2·2	7·8	2·5	0·3	12·4	26·9	33·0
45	T.C. Kattur	18,801	111	5·9	...	6	15	75	1	...	...	...	...	..	...	...	...	97	...	0·3	0·8	4·0	0·1	...	.	...	5·2	5·8
46	T.C. Dharapuram ...	17,926	538	30·0	86	7	4	16	104	25	1	...	...	1	...	2	242	4[illegible]	4·8	0·4	0·2	0·9	5·8	1·4	0·1	13·5	27·1	18·6
47	T.C. Koliegal	12,566	308	24·1	115	5	24	19	6	20	...	...	1	4	...	5	147	341	9·2	0·4	1·9	1·5	0·5	1·6	0·4	11·6	27·1	22·2
48	T.C. Pollachi	10,909	290	26·6	16	3	28	14	37	15	1	1	2	3	...	7	150	270	1·5	0·3	2·6	1·3	3·4	1·4	0·6	13·7	24·8	24·1
49	T.C. Udamalpet	10,445	171	16·4	3	...	75	7	29	5	1	...	2	1	...	4	118	241	0·3		7·2	0·7	2·8	0·5	0·4	11·2	23·1	16·7
50	T.C. Gobichettipalayam.	10,163	381	37·5	...	22	...	22	19	3	1	...	2	...	...	3	129	198	...	2·2	...	2·2	1·9	0·3	0·3	12·6	19·5	10·2
51	T.C. Tiruppúr	9,429	144	15·3	1	...	6	9	11	11	1	1	4	...	...	6	45	89	0·1	...	0·6	1·0	1·2	1·2	0·6	4·7	9·4	24·0
52	T.C. Bhaváni	8,716	379	43·5	...	31	...	11	42	16	...	...	6	1	...	7	140	247	...	3·6	...	1·3	4·8	1·8	0·8	16·0	28·3	23·2
53	T.C. Palladam	6,895	171	24·8	...	2	13	9	7	1	..	...	1	...	...	1	73	106	...	0·3	1·9	1·3	1·0	0·2	0·2	10·6	15·4	28·9
54	T.C. Anamalai	5,857	172	29·4	...	13	3	22	9	...	...	...	1	1	...	2	51	100	...	2·2	0·5	3·8	1·5	...	0·3	8·8	17·1	18·3
	Cuddapah—																											
55	M.T.C. Cuddapah ..	17,807	468	26·3	2	1	18	37	35	44	...	...	5	1	...	6	200	343	0·1	0·1	1·0	2·1	2·0	2·5	0·3	11·2	19·3	35·1
56	T.C. Jammalamadugu ..	16,099	234	14·5	1	...	...	18	3	13	...	...	...	...	...	...	59	94	0·1	...	...	1·1	0·2	0·8	...	3·6	5·8	14·3
57	T.C. Proddatur	15,756	173	11·0	1	...	...	50	...	...	...	1	...	1	...	2	81	137	0·1	..	.	3·2	..	.	0·1	5·3	8·7	12·3
58	T.C. Razampeta	14,649	123	8·4	13	2	...	35	8	4	...	...	...	...	...	...	7	69	0·9	0·1	...	2·4	0·5	0·3	...	0·5	4·7	4·4
59	T.C. Badvel	11,590	187	16·1	1	...	...	5	...	2	...	...	...	...	...	...	99	107	0·1	...	...	0·4	...	0·2	...	8·5	9·2	12·8
60	T.C. Vempalli	10,291	98	9·5	...	...	20	39	1	8	...	...	...	...	...	...	17	85	...	...	1·9	3·8	0·1	0·8	...	1·7	8·3	8·1
61	T.C. Ráyachóti	8,012	214	26·7	...	...	...	2	1	...	...	...	...	...	...	...	59	62	...	...	...	0·2	0·1	...	...	7·4	7·7	12·0
62	T.C. Porumamilla ...	5,634	90	16·0	...	...	...	17	...	6	...	...	...	...	...	...	39	62	...	...	...	3·0	...	1·1	...	6·9	11·0	14·8
	Ganjam—																											
63	M.T.C. Chicacole ...	17,852	581	32·5	2	...	...	100	80	...	1	1	2	1	...	5	230	417	0·1	...	...	5·6	4·5	...	0·3	12·9	23·4	29·3
64	M.T.C. Berhampur ...	31,456	941	29·9	3	6	...	195	52	90	...	1	5	1	...	7	307	660	0·1	0·2	...	6·2	1·7	2·9	0·2	9·7	21·0	32·2
65	M.T.C. Parlákimedi ...	18,370	604	32·9	6	...	...	133	42	1	...	...	3	1	...	4	183	369	0·3	...	...	7·2	2·3	0·1	0·2	10·0	20·1	29·8
66	T.C. Ichchhápuram ...	9,252	200	21·6	17	...	...	67	6	3	...	...	...	...	...	...	8	101	1·8	...	...	7·2	0·7	0·3	...	0·9	10·9	9·6
67	T.C. Tekkali	7,668	205	26·7	1	...	...	49	24	6	...	3	1	1	...	5	28	113	0·1	...	...	6·4	3·1	0·8	0·7	3·6	14·7	12·5
68	T.C. Sompeta	7,037	210	29·8	...	...	...	39	14	10	1	...	...	1	..	2	63	128	...	...	...	5·5	2·0	1·4	0·3	9·0	18·2	24·3
69	T.C. Russellkonda ...	6,042	161	26·6	19	...	...	82	4	1	...	1	6	...	...	7	30	143	3·1	...	..	13·6	0·7	0·2	1·2	4·9	23·7	22·3
	Godavari—																											
70	M.T.C. Cocanada ...	54,110	1,656	30·6	...	1	...	286	114	95	...	...	16	...	...	16	643	1,155	...	0·02	..	5·3	2·1	1·8	0·3	11·8	21·3	30·0
71	M.T.C. Rajahmundry	48,417	1,684	34·8	1	5	...	266	75	40	2	3	19	...	...	24	543	965	0·02	0·1	...	5·5	1·5	1·0	0·5	11·3	19·9	32·7
72	T.C. Samalkot	15,483	102	6·6	...	...	...	43	3	...	...	...	...	...	...	..	21	67	...	...	...	2·8	0·2	...	...	1·3	4·3	8·2
73	T.C. Peddapuram... ...	15,436	376	24·4	...	12	...	136	4	1	...	...	9	2	...	11	107	271	...	0·8	...	8·8	0·3	0·1	0·7	6·9	17·6	20·4
74	T.C. Pithápuram	15,316	160	10·4	...	2	...	41	2	8	1	...	4	1	...	6	50	109	...	0·1	...	2·7	0·1	0·5	0·4	3·3	7·1	9·2
75	T.C. Amalápuram ...	12,615	311	24·7	...	...	...	48	24	30	...	...	1	...	...	1	106	209	...		.	3·8	1·9	2·4	0·1	8·4	16·6	23·1
76	T.C. Dowlaishweram ...	10,347	321	31·0	...	6	...	11	1	...	...	...	...	...	...	...	209	227	...	0·6	...	1·0	0·1	...	...	20·2	21·9	22·3
77	T.C. Mandapeta	9,546	325	34·0	...	...	...	42	15	7	2	...	1	...	...	3	154	221	...	...	...	4·4	1·6	0·7	0·3	16·2	23·2	22·7
78	T.C. Tuni	9,268	194	20·9	...	...	...	141	6	9	...	...	...	...	...	...	13	169	...	...	...	15·2	0·6	1·0	...	1·4	18·2	11·1
	Guntur—																											
79	M.T.C. Guntúr	40,529	1,616	39·9	...	105	...	251	45	58	1	3	2	...	...	6	928	1,393	...	2·6	...	6·2	1·1	1·4	0·2	22·9	34·4	40·1
	M.T.C. Ongole	13,286	499	37·6	...	...	...	78	34	8	1	...	11	...	...	12	209	341	..	..	...	5·9	2·6	0·6	0·9	15·7	25·7	32·3
81	M.T.C. Tenali	18,195	594	32·6	...	2	...	163	25	59	...	...	2	2	1	5	147	401	...	0·1	..	9·0	1·4	3·2	0·3	8·0	22·0	27·7
82	T.C. Chirala	18,618	563	30·2	1	1	...	141	41	48	...	...	1	..	...	1	168	401	0·1	0·1	.	7·5	2·2	2·5	0·1	9·0	21·5	25·9

No. VI.—*Births and Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1913—cont.

1	2	3	4		5	6	7	8	9	10	11						12	13	14									
			Births.								Injuries.								Ratio of deaths per 1,000 of population.									
											Suicides.																From all causes.	
Number.	Districts and towns.	Population for which returns were received.	Total number.	Birth-rate per mille of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Males.	Females.	Wounds and accidents.	Snake-bites and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean for previous 5 years.
	B.—Towns—cont.																											
	Guntur—*cont.*																											
83	T.C. Bapatla	10,973	336	30·6	...	...	...	75	9	1	...	...	...	...	...	..	133	218	...	...	...	6·8	0·8	0·1	..	12·2	19·9	24·2
84	T.C. Vetapalemu ...	10,582	376	35·5	...	...		120	10	6	...	2	1	...	...	3	131	270	...	...	...	11·3	0·9	0·6	0·3	12·4	25·5	26·1
85	T.C. Mangalagiri	8,747	322	36·8	...	2	...	53	18	2	1	1	...	...	...	2	158	215	.	1·2	..	6·1	2·1	0·2	0·2	15·8	24·6	22·3
86	T.C. Narasaraopet ...	8,743	311	35·6	..	1		29	14	20	..	.	1	...	...	1	137	202	...	0·1	...	3·3	1·6	2·3	0·1	15·7	23·1	24·7
87	T.C. Ponnur	8,440	255	30·2	...	.	..	43	8	15	..	...	1	...	...	1	72	159	.	...	..	5·1	0·9	1·8	0·1	8·6	16·5	13·9
88	T.C. Adanki	8,358	368	43·9	1	...		45	25	19	...	..	2	2	...	4	93	187	0·1	..	..	5·4	3·0	2·3	0·5	11·1	22·4	17·6
89	T.C. Alluru-Kotapatam.	8,083	199	24·6		..	..	96	...	18	..	...	...	...	...	..	16	130	...	.	...	11·9	...	2·2	..	2·0	16·1	20·6
90	T.C. Vinukonda	7,495	209	30·9	1	9	.	55	...	9	...	5	...	...	...	5	142	221	0·1	1·2	...	7·3	..	1·2	0·7	19·0	29·5	25·1
	Kistna—																											
91	M.T.C. Ellore	37,819	1,996	52·8	...	46	...	334	98	..	1	...	9	...	...	10	776	1,204	...	1·2	...	8·8	2·6	..	0·3	20·5	33·4	37·8
92	M.T.C. Masulipatam ...	42,123	1,372	32·6	...	36	..	225	61	...	...	...	3	2	1	6	640	968	...	0·9	.	5·3	1·5	..	0·1	15·2	23·0	33·7
93	M.T.C. Bezwada	32,867	1,167	35·5	...	...	...	88	79	133	6	3	13	1	...	23	534	857	...	...	...	2·7	2·1	4·0	0·7	16·3	26·1	39·7
94	T.C. Tanuku	18,835	415	22·0	...	..	..	47	13	16	...	2	1	...	...	3	131	240	...	..	...	2·5	0·7	2·4	0·2	6·9	12·7	14·6
95	T.C. Attili	17,954	228	12·7	..		...	54	2	44	...	1	..	...	..	1	41	142	...	...	...	3·0	0·1	2·5	0·1	2·2	7·9	18·8
96	T.C. Palakollu	12,953	220	17·0	...	...	...	17	6	6	...	...	1	...	...	1	136	166	...	...	...	1·3	0·5	0·5	0·1	10·4	12·8	26·6
97	T.C. Narasapur	11,950	188	15·7	...	.	..	21	4	7	...	...	...	...	...	...	100	132	...	...	...	1·8	0·3	0·6	..	8·3	11·0	17·4
98	T.C. Penukonda	11,039	281	25·5	...	..	..	87	6	22	..	...	1	...	...	1	61	177	..	...	...	7·9	0·5	2·0	0·1	5·5	16·0	11·6
99	T.C. Nuzvid	10,023	364	36·3	..	...	.	9	5	2	1	2	1	...	...	4	229	249	...	..	..	0·9	0·5	0·2	0·4	22·8	24·8	25·0
100	T.C. Gudiváda	9,180	143	15·6	...	2	..	25	4	32	..	...	...	...	...	...	40	103	...	0·2	...	2·7	0·4	3·5	..	4·4	11·2	19·6
101	T.C. Achanta	8,844	227	25·7	..	..	..	19	...	2	..	...	1	...	...	1	76	98	...	...	...	2·2	...	0·2	0·1	8·6	11·1	25·8
102	T.C. Jaggayyapeta ...	8,802	257	29·2	1	...	...	40	19	7	1	2	...	...	...	3	156	226	0·1	..	..	4·5	2·2	0·8	0·3	17·8	25·7	25·6
103	T.C. Valuru	7,181	242	33·7	..	...	.	30	1	6	..	...	2	...	...	2	91	130	...	..	...	4·2	0·1	0·8	0·3	12·7	18·1	26·8
	Kurnool—																											
104	M.T.C. Kurnool	26,040	1,171	45·0	14	6	...	405	168	74	1	1	12	3	...	17	218	902	0·5	0·2	...	15·6	6·5	2·8	0·7	8·3	34·6	35·2
105	M.T.C. Nandyal	16,230	565	34·8	...	1	...	137	24	..	...	1	2	2	...	5	194	361	...	0·1	...	8·4	1·5	...	0·3	11·9	22·2	31·1
106	T.C. Cumbum	6,344	140	22·1	...	..	..	1	5	29	...	...	...	...	...	...	32	67	...	...	...	0·2	0·8	4·6	...	5·0	10·6	17·2
	Madras—																											
107	M.T.C. Madras	504,138	18,954	37·6	28	34	3	3,797	5,120	2,700	7	6	155	...	...	168	8,472	20,322	0·1	0·1	0·01	7·5	10·2	5·8	0·3	16·8	40·3	40·6
	Madura—																											
108	M.T.C. Madura	134,120	4,669	34·8	227	92	...	906	541	183	2	1	24	2	1	30	2,382	4,361	1·7	0·7	...	6·8	4·0	1·4	0·2	17·7	32·5	33·7
109	M.T.C. Periyakulam ...	18,715	900	48·1	4	...	..	78	181	43	1	1	3	1	1	7	268	581	0·2	...	...	4·1	9·7	2·3	0·4	14·3	31·0	35·6
110	M.T.C. Dindigu	25,052	1,237	49·4	9	2	...	81	141	...	...	..	12	1	...	13	548	794	0·4	0·1	...	3·2	5·6	...	0·5	21·9	31·7	35·1
111	M.T.C. Palni	13,211	655	49·6	251	8	...	3	61	...	...	.	7	...	...	7	488	818	19·0	0·6	...	0·2	4·6	..	0·5	37·0	61·9	0·0
112	M.T.C. Kodaikánal ...	2,906	113	38·9	...	..	...	13	16	...	...	...	...	...	...	...	36	65	...	...	...	4·5	5·5	...	..	12·4	22·4	26·6
113	T.C. Bodinayakanur ...	20,183	361	17·9	44	9	...	145	2	1	.	...	2	...	...	2	62	265	2·2	0·4	..	7·2	0·1	0·05	0·1	3·1	13·1	13·2
114	T.C. Sholavandan ...	12,419	315	25·4	66	2	...	104	24	3	..	...	6	...	...	6	185	390	5·3	0·2	...	8·4	1·9	0·2	0·5	14·9	31·4	17·0

No. VI.—*Births and Deaths registered from different causes in t... ...s and towns of the Madras Presidency during the year 191...—cont.*

1	2	3	4		5	6	7	8	9	10	11						12	13	14									
			Births.								Injuries.								Ratio of deaths per 1,000 of population.									
											Suicides.																From all causes.	
Number.	Districts and towns.	Population for which returns were received.	Total number.	Birth-rate per mille of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Males.	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean of previous 5 years.
	B.—Towns—cont.																											
	Madura—*cont.*																											
115	T.C. Melur	9,972	224	22·5	29	...	...	11	5	1	..	...	3	.	...	3	139	191	2·9	...	...	1·1	0·5	0·4	0·3	14·0	19·2	19·0
116	T.C. Tirumangalam ...	9,810	250	25·4	10	2	...	101	8	6	...	...	...	...	...	...	73	200	1·0	0·2	...	10·3	0·8	0·6	.	7·4	20·3	22·8
117	T.C. Uttamapalaiyam ...	8,702	337	38·7	89	2	...	65	12	4	...	...	1	...	...	1	93	266	10·2	0·2	...	7·5	1·4	0·5	0·1	10·7	30·6	21·2
118	T.C. Natham	7,111	258	36·3	1	...	...	62	8	12	...	...		...	...	...	76	159	0·2	..	...	8·7	1·1	1·7	...	10·7	22·4	24·3
	Malabar—																											
119	M.T.C. Tellicherry ...	29,258	1,093	37·4	6	13	1	128	177	198	1	...	12	1	1	15	341	879	0·2	0·4	0·03	4·4	6·0	6·8	0·5	11·7	30·0	35·1
120	M.T.C. Calicut	78,417	3,058	39·0	21	16	...	119	721	160	3	2	2	...	...	7	1,887	2,931	0·3	0·2	..	1·5	9·2	2·0	0·1	24·1	37·4	37·8
121	M.T.C. Palghat	44,319	1,814	40·9	29	2	8	257	171	...	3	...	7	2	2	14	862	1,343	0·7	0·05	0·2	5·8	3·9	...	0·3	19·4	30·3	29·8
122	M.T.C. Cochin	20,023	722	36·1	115	40	...	124	100	148	...	...	3	..	...	3	134	664	5·7	2·0	...	6·2	5·0	7·4	0·2	6·7	33·2	29·6
123	M.T.C. Cannanore ...	28,957	1,138	39·3	...	2	1	102	82	81	...	...	3	1	...	4	375	647	...	0·1	0·03	3·5	2·8	2·8	0·1	13·0	22·3	36·0
124	T.C. Ponnani	13,984	382	27·3	1	...	...	42	101	11	...	...	2	...	...	2	145	302	0·1	...	...	3·0	7·2	0·8	0·1	10·4	21·6	25·2
125	T.C. Badagara	11,140	370	33·2	...	2	...	50	18	5	1	...	4	...	.	5	100	180	...	0·2	...	4·5	1·6	0·4	0·4	9·0	16·1	26·4
126	T.C. Tanurnagram ...	8,409	406	48·3	5	...	...	74	65	4	...	...	...	...	...	...	118	266	0·6	...	...	8·8	7·7	0·5	...	14·0	31·6	20·1
	Nellore—																											
127	M.T.C. Nellore	33,246	1,082	32·5	69	...	...	173	61	...	2	2	3	2	1	10	761	1,077	2·1	...	...	5·2	1·9	...	0·3	22·9	32·4	29·8
128	T.C. Venkatagiri	14,275	352	24·7	...	...	...	97	5	2	...	...	3	...	...	3	131	238	...	...	...	6·8	0·4	0·1	0·2	9·2	16·7	27·9
129	T.C. Kandukur	10,276	347	33·8	...	..	...	50	9	1	...	...	...	...	...	...	93	153	...	...	...	4·9	0·9	0·1	...	9·0	14·9	21·2
130	T.C. Alluru	8,322	199	23·9	11	6	...	26	16	7	...	.	1	...	...	1	88	149	1·8	0·7	...	3·1	1·9	0·9	0·1	10·6	17·9	21·8
131	T.C. Gudur	8,006	204	25·5	21	...	...	46	7	..	...	...	...	...	...	...	65	139	2·6	...	...	5·7	0·9	...	...	8·2	17·4	18·6
132	T.C. Kanigiri	6,974	261	37·4	1	...	...	55	11	24	...	...	3	...	...	3	48	115	0·1	..	..	7·9	2·0	3·4	0·5	6·9	20·8	23·8
133	T.C. Kavali	6,380	193	30·3	...	.	...	30	11	2	..	...	1	...	...	1	95	139	...	...	...	4·7	1·7	0·3	0·2	14·9	21·8	12·7
134	T.C. Nayudupet	6,260	167	26·7	9	6	...	84	11	...	...	...	1	1	...	2	20	132	1·4	1·0	...	13·4	1·8	...	0·3	3·2	21·1	9·7
	Nilgiris—																											
135	M.T.C. Ootacamund ...	18,829	704	40·6	...	...	...	14	66	113	3	1	6	...	...	10	345	548	...	...	...	0·7	3·5	6·0	0·5	18·4	29·1	30·3
136	M.T.C. Coonoor	9,933	363	36·5	1	...	23	9	46	77	...	...	1	...	1	2	144	302	0·1	.	2·3	0·9	4·6	7·8	0·2	14·5	30·4	29·1
137	T.C. Wellington	6,018	206	34·2	2	1	9	13	26	1	...	1	1	...	...	2	93	147	0·3	0·2	1·5	2·2	4·3	0·2	0·3	15·4	24·4	27·4
	North Arcot—																											
138	M.T.C. Vellore	49,746	2,141	43·0	7	51	84	42	207	91	1	1	4	.	..	6	1,021	1,519	0·1	1·0	1·7	0·8	4·2	1·8	0·1	20·8	30·5	27·4
139	M.T.C. Gudiyattam ...	23,399	503	21·5	1	...	130	26	101	29	...	.	7	1	..	8	156	454	0·04	..	5·6	1·1	4·5	1·2	0·3	6·7	19·4	32·1
140	M.T.C. Walajapet ...	9,962	112	11·4	...	...	2	28	36	27	...	1	2	...	...	3	178	274	...	...	0·2	2·8	3·6	2·7	0·3	17·9	27·5	27·8
141	M.T.C. Tiruvannamalai...	21,244	830	39·1	16	10	...	84	110	.	...		14	1	...	15	408	643	0·7	0·5	..	4·0	5·2	...	0·7	19·2	30·3	34·9
142	M.T.C. Tiruppattur ...	10,470	536	51·2	15	1	464	34	34	29	...		4	1		5	267	849	1·5	0·1	44·3	3·2	3·2	2·8	0·5	25·5	81·1	43·0
143	M.T.C. Vaniyambadi ...	20,406	751	36·8	7	9	3	24	47	16	...	...	3	...	...	3	323	432	0·4	0·4	0·1	1·2	2·3	0·8	0·1	15·9	21·2	39·9
144	T.C. Ambur	18,264	614	33·6	25	...	598	9	31	...	...	...	2		1	3	345	1,014	1·5	...	32·7	0·5	1·7	...	0·2	18·9	55·5	22·3
145	T.C. Arcot	11,475	346	30·2	25	4	...	6	26	8	...	...	...	...	...	...	184	253	2·2	0·3	...	0·5	2·3	0·7	..	16·0	22·0	23·6
146	T.C. Polur	9,929	282	28·4	4	...	1	4	13	2	...	..	1	...	...	1	140	165	0·4		0·1	0·4	1·3	0·2	0·1	14·1	16·6	12·7
147	T.C. Tiruvattur	9,136	185	20·2	21	3	...	49	17	4	..	...	1	.	...	1	28	118	2·3	0·3	...	5·4	1·9	0·4	0·1	2·5	12·9	6·4
148	T.C. Pallikonda	8,008	125	15·6	13	5	100	2	9	...	...	...	..	...	-	...	95	233	1·6	0·6	13·6	0·3	1·1			11·9	29·1	10·2
149	T.C. Ranipettai	7,807	165	21·1	2	1	...	18	17	19	...	...	2	1	...	3	67	127	0·2	0·1	.	2·3	2·2	2·4	0·4	8·7	16·3	16·7
150	T.C. Sholinghur	7,678	202	26·3	1	.	...	8	27	12			...			...	68	111	0·1	...		0·4	3·5	1·6		8·9	14·5	21·0

No. VI.—*Births and Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1913—cont.

1	2	3	4		5	6	7	8	9	10	11						12	13	14									
			Births.								Injuries.								Ratio of deaths per 1,000 of population.									
											Suicides.																From all causes.	
Number.	Districts and towns.	Population for which returns were received.	Total number.	Birth-rate per mille of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Males.	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean for previous 5 years.
	B.—Towns—cont.																											
	North Arcot—*cont.*																											
151	T.C. Wandiwash	6,973	239	34·3	10	1	...	...	...	...	...	...	...	...	...	...	141	152	1·4	0·2	...	...	...	...	...	20·2	21·8	9·1
152	T.C. Arkonam	6,896	171	24·8	11	2	2	...	1	...	...	...	...	...	1	1	137	154	1·6	0·3	0·3	...	0·1	...	0·1	19·9	22·3	16·7
153	T.C. Pernampattu ...	6,718	146	21·7	12	1	51	12	22	47	1	3	...	...	...	4	10	159	1·8	0·1	7·6	1·8	3·3	7·0	0·6	1·5	23·7	20·1
154	T.C. Visharam	6,455	150	23·2	...	...	...	...	12	...	...	...	...	...	...	...	63	75	...	...	...	...	1·9	...	..	9·7	11·6	7·1
155	T.C. Aiyabad	6,286	237	37·7	18	...	1	17	18	1	...	...	1	...	...	1	97	153	2·8	...	0·2	2·7	2·8	0·2	0·2	15·4	24·3	12·2
	Ramnad—																											
156	M.T.C. Srivilliputtur ...	29,066	1,288	44·3	...	...	...	74	139	45	1	1	15	1	...	18	487	763	...	...	...	2·5	4·8	1·6	0·6	16·8	26·3	30·9
157	T.C. Rajahpalaiyam ...	28,412	652	22·9	...	5	...	150	15	36	1	1	1	2	...	5	177	388	...	0·2	...	5·3	0·5	1·3	0·2	6·2	13·7	20·5
158	T.C. Aruppukottai ...	26,681	1,051	39·4	2	...	...	107	58	6	2	3	4	...	...	9	422	604	0·1	...	...	4·0	2·2	0·2	0·3	15·8	22·6	23·9
159	T.C. Virudupatti	21,355	413	20·7	9	..	..	54	45	13	1	...	2	...	...	3	205	329	0·4	...	...	2·5	2·1	0·6	0·2	9·6	15·4	23·3
160	T.C. Paramagudi	18,794	620	33·0	32	5	...	82	16	38	...	...	...	..	.	...	152	325	1·7	0·3	...	4·4	0·9	2·0	...	8·0	17·3	17·4
161	T.C. Ramnad	16,513	478	28·9	95	...	...	87	40	5	1	.	2	1	...	4	248	479	5·8	...	...	5·3	2·4	0·3	0·2	15·0	29·0	24·8
162	T.C. Kilakarai	15,145	469	31·0	33	...	...	119	2	2	...	...	...	1	...	1	186	343	2·2	.	...	7·9	0·2	0·2	0·1	12·3	22·9	28·4
163	T.C. Karaikudi	14,648	134	9·1	34	...	...	22	8	8	...	..	1	...	...	1	82	155	2·4	...	...	1·5	0·5	0·5	0·1	5·6	10·6	7·6
164	T.C. Settur	14,208	489	34·4		...	...	60	6	2	...	1	5	...	..	6	171	245			...	4·2	0·4	0·1	0·4	12·1	17·2	16·5
165	T.C. Sivakasi	14,022	596	36·1	1	...	...	40	12	3	..	1	5	1	...	7	265	328	0·1		...	2·8	0·9	0·2	0·5	18·9	23·4	26·1
166	T.C. Devakkottai . .	13,329	163	12·2	...	..	...	61	27	.	1	...	1	...		2	137	227	...	...	...	4·6	2·0	...	0·2	10·2	17·0	20·2
167	T.C. Elangaugudi ...	10,683	190	17·8	107	...		39	21	10	...	...	1			1	60	238	10·0	...	...	3·7	2·0	0·9	0·1	5·6	22·3	11·7
168	T.C. Rameswaram ...	10,612	16[illegible]	15·5	34	6	.	76	[illegible]	15		1	...		. .	1	149	324	3·2	0·6		7·2	4·0	1·4	0·1	14·0	30·5	24·3
169	T.C. Sivaganga	9,689	316	32·6	5	...		41	[illegible]	17	...	...	3	2		5	160	276	0·5		...	4·2	5·1	1·8	0·5	16·5	28·5	29·3
170	T.C. Tiruppattur ..	9,399	114	12·1	...	...	...	24	10	2	.	...	3	...	...	3	24	63	...		...	2·6	1·1	0·2	0·3	2·5	6·7	15·0
171	T.C. Abiramam	8,087	304	37·6	13	...		41	26	10		...	...	...		...	69	159	1·6	...	...	5·1	3·2	1·2	..	8·6	19·7	28·0
172	T.C. Vartirayiruppu ...	8,062	324	40·2	23	4		108	2	...	...	...	1	...	...	1	58	196	2·9	0·5	...	13·4	0·2		0·1	7·2	24·3	18·3
173	T.C. Kamudi	7,967	164	20·6	2	...	...	40	31	11	...	...	3	1	...	4	2	90	0·3	...	...	5·0	3·8	1·4	0·5	0·3	11·3	17·0
174	T.C. Sattur	6,396	127	19·9	...	...	.	47	25	3	...	...	1	...	.	1	33	109	...	...	...	7·3	3·9	0·5	0·2	5·1	17·0	28·1
175	T.C. Tiruppuvanam . .	6,154	117	19·0	10	1	...	36	6	9	.	...	1	...	...	1	43	106	1·6	0·2	...	5·8	1·0	1·4	0·2	7·0	17·2	21·8
176	T.C. Puliyampatti ...	5,805	129	22·2	1	..	...	38	11	5	...	...		...	...	...	41	96	0·2	...	..	6·5	1·9	0·9	...	7·0	16·5	25·9
177	T.O Manamadurai ...	5,184	63	12·2	...	1	...	18	...	...	...	...	...	...	...	...	17	36	...	0·2	...	3·5	...	...	...	3·2	6·9	3·6
	Salem—																											
178	M.T.C. Salem	59,153	3,274	55·3	1	1	2	129	266	158	..	1	25	...	3	29	1,315	1,901	0·02	0·02	0·03	2·2	4·5	2·7	0·5	22·2	32·1	39·7
179	T.C. Rasipuram	15,238	569	37·3	...	6	...	22	25	46	...	...	6	1	...	7	186	292	...	0·4	...	1·4	1·6	3·0	0·5	12·3	19·2	21·3
180	T.C. Atur	10,992	346	31·5	44	3	...	46	20	22	...	..	1	...	...	1	143	279	4·0	0·3	..	4·2	1·8	2·0	0·1	13·0	25·4	28·3
181	T.C. Krishnagiri	10,887	153	14·1	...	..	12	1	3	3	...	...	...	2	...	2	100	121	.	...	1·1	0·1	0·3	0·3	0·2	9·1	11·1	26·5
182	T.C. Dharmapuri ...	6,458	354	54·8	1	1	1	40	27	2	...	...	2	...	...	2	184	258	0·2	0·2	0·2	6·2	4·2	0·3	0·3	28·4	40·0	35·4
183	T.C. Hosur	5,913	152	25·7	...	2	6	14	11	...	...	...	...	..	...	...	115	148	...	0·3	1·0	2·4	1·9	...	...	19·4	25·0	28·3
184	T.C. Kaveripatnam ...	5,171	109	21·1	...	3	...	...	...	...	...	...	...	...	...	...	54	57	...	0·6	...	...	...	...	...	10·4	11·0	9·6
	South Arcot—																											
185	M.T.C. Cuddalore ...	56,574	2,126	37·6	21	2	...	294	145	95	2	...	16	2	...	20	1,055	1,632	0·4	0·04	...	5·2	2·5	·7	0·4	18·6	28·8	28·8
186	M.T.C. Chidambaram ...	21,327	636	29·8	...	...	...	118	98	8	...	...	2	1	1	4	489	717	...	...	...	5·5	4·6	0·4	0·2	22·9	33·6	36·6
187	T.C. Villupuram	16,157	219	13·6	4	1	...	24	12	1	...	...	1	...	...	1	102	145	0·2	0·1	...	1·5	0·7	0·1	0·1	6·3	9·0	26·8
188	T.C. Panruti	15,864	369	23·3	17	...	...	53	26	8	1	...	1	...	...	2	138	244	1·1	...	...	3·3	1·7	0·5	0·1	8·7	15·4	21·4
189	T.C. Porto Novo	15,804	308	19·5	11	...	...	75	20	7	1	...	...	...	...	1	104	218	0·7	...	.	4·7	1·3	0·4	0·1	6·6	13·8	18·1
190	T.C. Tindivanam	13,804	251	18·2	4	1	...	37	5	7	1	1	...	...	...	2	98	154	0·3	0·1	.	2·7	0·4	0·5	0·1	7·1	11·2	19·5
191	T.C. Nellikuppam ...	13,504	413	30·6	20	...	...	77	36	5	...	...	...	...	...	...	122	260	1·5	...	...	5·7	2·7	0·4	...	9·0	19·3	22·3
192	T.C. Vriddhachalam ...	11,779	192	16·3	5	1	...	74	29	5	...	...	...	..	...	...	70	184	0·4	0·1	...	6·3	2·5	0·4	...	5·9	15·6	24·7
193	T.C. Tirukkoyilur ...	10,654	182	17·1	6	...	...	42	15	1	...	...	1	...	...	1	59	124	0·6	...	...	3·9	1·4	0·1	0·1	5·5	11·6	21·7
194	T.C. Valavanur	8,687	129	14·8	7	1	...	37	6	3	...	[illegible]	...	...	...	...	58	112	0·8	0·1	..	4·3	0·7	0·3	...	6·7	12·9	17·1
195	T.C. Kallakurichi... ...	8,222	116	14·1	...	...	...	12	4	...	...	...	...	...	...	...	52	68	...	...	...	1·5	0·5	...	...	6·3	8·3	17·4

No. VI.—*Births and Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1913—cont.

1	2	3	4		5	6	7	8	9	10	11						12		14									
			Births.								Injuries.								Ratio of deaths per 1,000 of population.									
											Suicides.																From all causes.	
Number.	Districts and towns.	Population for which returns were received.	Total number.	Birth-rate per mille of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa	Respiratory diseases.	Males	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean of previous 5 years.
	B.—Towns—cont.																											
	South Canara—																											
196	M.T.C. Mangalore ...	48,412	1,614	33·3	2	1	283	61	184	128	1	1	17	1	2	22	591	1,272	0·04	0·02	5·8	1·3	3·8	2·7	0·5	12·2	26·3	33·6
197	T.C. Udipi	10,871	356	32·7	6	...	...	32	4	...	...	1	1	1	...	3	148	193	0·6	...	...	2·9	0·4	...	0·3	13·6	17·8	25·6
198	T.C. Kasaragod	8,295	270	30·1	...	3	...	16	17	7	...	...	3	...		3	57	103	...	0·3	...	1·9	2·1	0·8	0·4	6·9	12·4	22·8
199	T.C. Mulki	5,360	208	38·8	2	...	...	4	11	17	1	...	2	1	...	4	77	115	0·4	...	...	0·7	2·1	3·2	0·7	14·4	21·5	20·5
	Tanjore—																											
200	M.T.C. Tanjore ...	60,341	2,292	38·0	72	24	...	166	357	...	1	1	2	1	...	5	1,330	1,968	1·2	0·4	...	2·8	5·9	...	0·1	22·1	32·5	34·5
201	M.T.C. Kumbakonam ...	64,647	1,803	27·9	68	13	...	252	188	128	...	...	4	3	...	7	1,243	1,899	1·1	0·2	...	3·9	2·9	2·0	0·1	19·2	29·4	30·2
202	M.T.C. Mayavaram ...	27,121	905	33·4	34	2	...	169	85	...	...	...	7	1	2	10	541	841	1·3	0·1	...	6·2	3·1	...	0·4	19·9	31·0	31·1
203	M.T.C. Negapatam ...	60,168	1,638	27·2	96	1	38	371	308	155	1	1	4	5	...	11	1,077	2,057	1·6	0·02	0·6	6·2	5·1	2·6	0·2	17·9	34·2	34·1
204	M.T.C. Mannargudi ...	21,398	720	33·6	63	49	...	59	85	17	1	...	1	1	...	3	450	726	2·9	2·3	...	2·8	4·0	0·8	0·1	21 0	33·9	33·2
205	T.C. Tiruvalur	16,408	393	24·0	10	...	...	80	77	38	...	...	1	...	...	1	227	463	2·4	...	...	4·9	4·7	2·3	0·1	13·8	28·2	33·2
206	T.C. Vedaranniyam ...	14,632	468	32·0	12	...	...	80	25	2	...	...	...	...	...	...	255	374	0·8	...	...	5·5	1·7	0·1	...	17·5	25·6	16·8
207	T.C. Tranquebar ...	13,268	400	30·1	5	3	...	50	33	16	.	...	..	...	..	...	199	306	0·4	0·2	...	3·8	2·5	1·2	...	15·0	23·1	29·1
208	T.C. Tiruvadamarudur ...	12,549	352	28·1	17	...	1	49	9	1	1	...	3	1	...	5	183	265	1·4	...	0·1	3·9	0·7	0·1	0·4	14·5	21·1	31·9
209	T.C. Shiyali	11,116	316	28·4	50		...	32	10	10	...	...	5	...	...	5	204	311	4·5	...	...	2·9	0·9	0·9	0·4	18·4	28·0	29·7
210	T.C. Adirampatam ...	10,686	365	34·1	5	1	...	69	37	4	1	...	...	...	...	1	141	258	0·5	0·1	...	6·5	3·4	0·4	0·1	13·1	24·1	28·9
211	T.C. Ayyampettai ...	9,754	264	27·1	25	6	..	42	2	...	...	...	...	...	...	...	154	229	2·6	0·6	...	4·3	0·2	...	...	15·8	23·5	13·4
212	T.C. Muttupet	9,392	263	28·0	46	...	...	60	15	...	...	...	...	...	...	...	170	291	4·9	...	...	6·4	1·6	...	...	18·1	31·0	30·5
213	T.C. Pattukkottai ...	8,515	354	41·6	3	...	...	37	18	6	...	...	1	.	...	1	196	261	0·4	...	...	4·3	2·1	0·7	0·1	23·1	30·7	30·9
214	T.C. Tiruvadi	8,190	224	27·4	15	...	...	...	2	...	...	...	...	2	...	2	200	228	1·8	...	...	...	0·2	...	0·2	25·6	27·8	38·1
215	T.C. Vallam	7,701	237	30·8	9	...	...	16	11	2	1	...	...	...	...	1	150	219	1·2	...	...	6·0	1·4	0·3	0·1	19·4	28·4	30·0
216	T.C. Tirutturaippundi ...	6,015	190	31·6	42	1	...	15	10	4	...	...	1	...	...	1	136	209	7·0	0·2	...	2·5	1·6	0·6	0·2	22·6	31·7	58·5
217	T.C. Kudavasal	5,973	160	26·8	28	...	...	27	4	12	..	...	2	...	...	2	88	161	4·7	...	...	4·5	0·7	2·0	0·3	14·8	27·0	33·4
218	T.C. Nannilam	5,382	176	32·7	29	7	..	16	9	1	...	...	...	...	...	...	120	176	3·7	1·3	...	3·0	1·7	0·7	...	22·3	32·7	26·5
	Tinnevelly—																											
219	M.T.C. Tinnevelly ...	44,805	1,926	43·0	149	2	...	104	238	66	1	...	8	...	10	19	1,004	1,582	3·3	0·04	...	2·3	5·3	1·5	0·4	22·5	35·3	35·2
220	M.T.C. Palamcottah ...	44,909	1,649	36·7	25	...	...	124	383	203	...	1	12	...	1	14	486	1,235	0·6	...	...	2·8	8·5	4·5	0·3	10·8	27·5	31·9
221	M.T.C. Tuticorin ...	40,185	1,358	33·8	12	2	...	162	175	77	...	1	24	...	...	25	623	1,076	0·3	0·05	...	4·0	4·4	1·9	0·6	15·6	26·8	34·5
222	T.C. Tiruchendur ...	25,531	373	14·6	82	...	...	101	16	91	...	...	1	...	...	1	88	379	3·2	...	...	4·0	0·6	3·6	0·04	3·4	14·8	12·7
223	T.C. Kulasekarapatnam.	21,812	512	23·5	72	...	...	98	3	3	..	...	...	...	...	...	275	451	3·3	...	...	4·5	0·1	0·1	...	12·7	20·7	24·0
224	T.C. Tenkasi	19,940	743	37·3	15	...	...	93	49	...	...	1	4	...	...	5	338	500	0·8	...	...	4·7	2·5	...	0·2	16·9	25·1	29·7
225	T.C. Kallidaikurichi ...	17,263	599	34·7	16	...	...	63	65	27	...	...	1	...	...	1	264	436	0·9	...	...	3·6	3·8	1·6	0·1	15·3	25·3	27·6
226	T.C. Kadayanallur ...	17,077	550	32·2	30	...	...	63	43	3	...	...	...	...	...	...	177	316	1·8	...	...	3·7	2·5	0·2	...	10·3	18·5	21·7
227	T.C. Viravanallur ...	15,966	386	24·2	12	...	...	41	4	6	...	1	...	...	2	3	227	293	0·8	...	...	2·6	0·2	0·4	0·2	14·2	18·4	20·6
228	T.C. Puliyankudi ...	15,463	602	38·9	...	...	...	94	9	..	...	...	...	...	...	...	196	299	...	...	...	6·1	0·6	...	...	12·6	19·3	12·7
229	T.C. Sankaranayinarkoyil	15,152	586	38·6	...	...	...	68	20	16	...	2	6	...	...	8	207	319	...	...	...	4·5	1·3	1·1	0·5	13·6	21·0	18·4
230	T.C. Ambasamudram ...	14,207	423	29·8	23	...	...	33	25	...	...	...	4	...	...	4	247	332	1·6	...	...	2·3	1·8	...	0·3	17·4	23·4	20·7
231	T.C. Kadaiyam	13,798	305	22·1	16	..	...	31	1	1	1	1	1	...	...	3	180	232	1·2	...	...	2·2	0·1	0·1	0·2	13·0	16·8	17·0
232	T.C. Surandai	13,149	427	32·5	3	...	...	65	17	2	...	...	5	...	...	5	148	240	0·2	...	...	4·9	1·3	0·2	0·4	11·3	18·3	21·3
233	T.C. Kayalpatnam ...	12,862	267	20·8	48	...	..	134	10	...	...	...	...	...	...	...	120	312	3·7	...	...	10·4	0·8	...	...	9·4	24·3	30·3
234	T.C. Sivagiri	12,257	421	34·3	24	...	...	3	...	...	...	...	...	...	...	...	158	185	2·0	...	...	0·2	...	...	...	12·9	15·1	14·2
235	T.C. Sermadevi	12,150	465	38·3	8	...	...	52	62	11	...	...	2	...	...	2	199	334	0·7	...	...	4·3	5·1	0·9	0·2	16 3	27·5	27·7
236	T.C. Srivaikuntam ..	11,005	456	41·4	19	...	...	4	...	...	1	...	...	...	...	1	311	335	1·7	...	...	0·4	...	...	0·1	28·2	30·4	34·0
237	T.C. Melasevval	10,071	361	35·8	...	...	...	23	8	2	...	...	...	...	...	...	198	231	...	...	...	2·3	0·8	0·2	...	19·6	22·9	27·2

9

No. VI.—*Births and Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1913—cont.

1	2	3	4		5	6	7	8	9	10	11						12	13	14									
			Births.								Injuries.								Ratio of deaths per 1,000 of population.									
											Suicides.																From all causes.	
Number.	Districts and towns.	Population for which returns were received.	Total number.	Birth-rate per mille of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Males.	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean of previous 5 years.
	B.—Towns—cont.																											
	Tinnevelly—*cont.*																											
238	T.C. Vasudevanallur ...	9,882	403	40·8	2	...	...	63	4	1	...	...	...	...	...	...	198	268	0·2	...	...	6·4	0·4	0·1	...	20·0	27·1	14·9
239	T.C. Ettiyapuram ...	8,636	139	16·1	...	...	...	25	5	...	...	...	...	...	...	...	74	104	...	...	...	2·0	0·6	...	...	8·5	12·0	18·7
240	T.C. Nanguneri	8,496	279	32·8	...	...	...	34	4	3	...	1	2	...	...	3	153	197	...	...	...	4·0	0·4	0·4	0·4	18·0	23·2	26·0
241	T.C. Vaddakku Valliyur.	7,661	261	34·1	2	...	...	60	5	2	...	...	...	...	...	...	152	221	0·3	...	...	7·8	0·6	0·3	...	19·8	28·8	22·7
242	T.C. Sattankulam ...	7,440	252	33·9	6		...	23	4	6	...	1	...	...	...	1	128	168	0·8	...	...	3·1	0·6	0·8	0·1	17·2	22·6	24·2
243	T.C. Alwar Tirunagari ...	6,820	260	38·1	29	...	...	34	26	13	..	...	1	...	...	1	178	281	4·3	...	...	5·0	3·8	1·9	0·1	26·1	41·2	30·2
244	T.C. Pattamadai	6,290	222	35·3	3	..	...	2	1	...	...	...	1	...	...	1	111	118	0·5	..	...	0·3	0·2	...	0·2	17·6	18·8	25·9
245	T.C. Koilpatti	5,016	167	33·3	11	...	...	...	6	...	...	1	4	1	...	6	103	126	2·2	...	...	...	1·2	...	1·2	20·5	25·1	16·4
	Trichinopoly—																											
246	M.T.C. Trichinopoly ...	123,512	4,065	32·9	161	33	2	326	451	...	...	...	15	1	...	16	2,492	3,481	1·3	0·3	0·02	2·6	3·7	...	0·1	20·2	28·2	29·9
247	M.T.C. Srirangam ...	24,799	740	29·8	13	17	...	139	63	11	...	...	6	...	...	6	397	646	0·5	0·7	...	5·6	2·5	0·4	0·2	16·1	26·0	29·9
248	M.T.C. Karur	17,674	607	34·3	64	.	...	87	82	49	...	...	4	2	...	6	247	535	3·6	...	...	4·9	4·7	2·8	0·3	14·0	30·3	30·1
249	T.C. Turaiyur	13,249	275	20·8	...	...	...	53	14	2	.	...	...	...	...	...	88	157	...	...	...	4·0	1·1	0·1	...	6·6	11·8	13·1
250	T.C. Pallapatti	9,277	352	37·9	...	4	...	78	10	..	...	...	...	...	...	...	117	209	...	0·4	...	8·4	1·1	...	...	12·6	22·5	26·7
251	T.C. Sendamangalam ...	9,196	381	41·4	2	3	. .	54	6	...	...	...	2	2	1	5	133	203	0·2	0·3	...	5·9	0·7	...	0·5	14·5	22·1	18·0
252	T.C. Ariyalur	7,904	292	36·9	2	...	...	14	22	8	1	2	...	8	...	11	114	171	0·2	...	...	1·8	2·8	1·0	1·4	14·4	21·6	21·3
253	T.C. Kulittalai	6,767	283	41·8	4		...	10	24	5	...	1	...		...	1	181	225	0·6	...	...	1·5	3·5	0·7	0·1	26·8	33·2	28·8
254	T.C. Udaiyarpalaiyam ...	6,759	202	29·9	...	...	...	47	3	7	...	...	1	...	...	1	52	110	...	...	...	7·0	0·5	1·0	0·1	7·7	16·3	27·2
255	T.C. Namakkal	5,196	306	58·9	2	...	...	59	12	6	2	...	1	...	...	3	93	175	0·4	...	...	11·3	2·3	1·2	0·6	17·9	33·7	31·5
	Vizagapatam—																											
256	M.T.C. Vizagapatam ...	43,413	1,290	29·7	...	10	...	216	130	127	1	...	9	2	...	12	531	1,056	...	0·9	...	5·0	3·0	2·9	0·3	12·2	24·3	31·3
257	M.T.C. Bimlipatam ...	9,314	315	33·8	...	2	1	30	43	36	...	...	1	...	...	1	67	180	...	0·2	0·1	3·2	4·6	3·9	0·1	7·2	19·3	28·9
258	M.T.C. Vizianagram ...	37,550	1,307	34·8	...	...	...	315	286	37	1	1	14	1	...	17	221	876	...	...	...	8·4	7·6	1·0	0·5	5·8	23·3	30·7
259	M.T.C. Anakapalle ...	20,625	676	32·8	...	41	...	145	97	40	...	1	7	2	...	10	175	508	...	2·0	...	7·0	4·7	1·9	0·5	8·5	24·6	29·1
260	T.C. Bobbili	18,261	418	22·9	...	2	...	157	2	5	...	...	3	...	...	3	42	211	...	0·1	...	8·6	0·1	0·3	0·2	2·3	11·6	18·0
261	T.C. Saluru	17,594	599	34·0	...	...	...	274	...	...	...	...	...	...	...	...	...	274	...	...	...	15·6	...	...	...	...	15·6	18·5
262	T.C. Parvatipuram ...	16,773	175	10·4	...	...	...	162	1	...	...	...	...	...	...	...	9	172	...	...	...	9·7	0·1	...	...	0·5	10·3	10·6
263	T.C. Narasapatam ...	11,268	197	17·5	...	...	...	69	1	...	...	...	...	...	..	...	2	72	...	...	...	6·1	0·1	...	...	0·2	6·4	12·2
264	T.C. Palkonda	10,888	288	26·5	...	...	...	101	2	2	...	...	...	...	...	...	55	160	...	...	...	9·3	0·2	0·2	...	5·0	14·7	17·9
265	T.C. Yellamanchili ...	7,036	228	32·4		1	...	60	28	7	...	...	1	1	...	2	18	116	...	0·1	...	8·5	4·0	1·0	0·3	2·6	16·5	24·8
266	T.C. Mudugula	6,611	157	23·7	..	...	...	161	...	...	...	...	...	...	...	...	...	161	...	..	...	24·4	...	...	...	. .	24·4	26·7
267	T.C. Chinnamerangi ...	6,452	127	19·7	...	...	...	60	...	...	...	...	...	...	...	...	7	67	...	..	...	9·3	...	...	...	1·1	10·4	17·6
268	T.C. Srungavarapukota...	6,385	128	20·0	...	...	...	7	4	21	...	...	2	1	...	3	50	85	...	...	...	1·1	0·6	3·3	0·5	7·8	13·3	21·5
269	T.C. Viraghattam ...	5,921	235	39·7	...	...	...	82	...	...	...	...	...	...	...	...	19	101	...	...	...	13·9	...	...	...	3·2	17·1	16·9
269	Total, Town Circles ...	4,831,395	155,332	32·2	4,538	1,240	2,938	22,471	17,836	8,176	85	94	878	126	38	1,221	68,189	126,409	0·9	0·3	0·6	4·6	3·6	1·8	0·3	14·1	26·2	28·9
231	Total, Rural Districts ...	35,174,340	1,133,286	32·2	33,192	13,562	2,192	245,553	48,375	29,851	630	777	5,329	2,386	102	9,224	348,293	730,242	0·9	0·4	0·1	7·0	1·4	0·8	0·3	9·9	20·8	23·4
500	Total, Madras Presidency...	40,005,735	1,288,618	32·2	37,730	14,802	5,130	268,024	65,711	38,327	715	871	6,207	2,512	140	10,445	416,482	856,651	0·9	0·4	0·1	6·7	1·6	1·0	0·3	10·4	21·4	24·0

NOTE.—Hospet was constituted into a Municipality during the year—*vide* G.O. No. 2334 M., dated the 5th December 1912.

No. VII.—*Deaths registered from Cholera in the districts of the Madras Presidency during each month of the year 1913.*

1	2	3		4		5												6			7			8
		Circles of registration.		Villages.														Total.			Ratio of deaths per 1,000 of population.			
Number.	Districts.	Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous 5 years.
1	Anantapur	22	20	846	250	27	...	1	139	254	928	1,768	861	408	134	19	5	2,465	2,079	4,544	5·0	4·4	4·7	2·9
2	Bellary	20	15	949	201	10	5	...	...	12	54	540	270	83	25	13	...	579	433	1,012	1·2	0·9	1·0	2·6
3	Chingleput	20	15	2,157	61	134	18	7	10	2	11	28	2	...	2	...	24	120	118	238	0·2	0·2	0·2	0·8
4	Chittoor	14	14	2,447	181	373	116	29	16	1	121	347	207	195	199	73	117	972	822	1,794	1·5	1·3	1·4	1·2
5	Coimbatore	22	17	1,350	226	744	467	394	189	56	54	58	8	6	...	2	...	1,112	866	1,978	1·1	0·8	0·9	1·5
6	Cuddapah	17	14	882	132	139	66	4	...	...	28	265	390	101	50	41	13	578	519	1,097	1·3	1·2	1·2	3·2
7	Ganjām Plains ...	18	17	4,154	281	4	1	7	20	144	118	147	54	15	6	29	13	315	243	558	0·4	0·2	0·3	...
	Ganjām Agency ...	6	...	2,056	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	·	...	...
	Total ...	24	17	6,210	281	4	1	7	20	144	118	147	54	15	6	29	13	315	243	558	0·4	0·2	0·3	2·3
8	Gōdāvari Plains ...	17	4	883	17	...	...	...	...	...	1	4	33	2	30	...	...	30	40	70	0·04	0·05	0·05	...
	Gōdāvari Agency ...	5	1	1,102	1	3	...	...	...	...	...	...	...	...	...	...	...	...	3	3	...	0·03	0·01	...
	Total ...	22	5	1,935	18	3	...	...	...	...	1	4	33	2	30	...	...	30	43	73	0·04	0·05	0·04	1·4
9	Guntūr	21	7	945	16	22	5	...	...	...	1	...	1	9	1	28	...	39	28	67	0·05	0·03	0·04	0·7
10	Kistna	26	6	1,715	12	2	12	...	...	...	1	...	2	...	1	3	...	9	12	21	0·01	0·01	0·01	1·8
11	Kurnool	12	8	809	42	15	22	1	52	...	29	128	212	41	3	14	...	258	254	512	0·5	0·5	0·5	2·0
12	Madras	1	1	1	1	7	2	6	...	2	...	1	1	7	...	2	...	11	17	28	0·04	0·1	0·1	1·0
13	Madura	19	18	1,108	340	553	146	104	175	129	161	117	115	21	62	350	909	1,510	1,332	2,842	1·6	1·4	1·5	2·0
14	Malabar	18	15	2,213	244	2,504	746	568	231	75	39	50	40	3	...	5	51	2,029	2,283	4,312	1·4	1·5	1·4	2·4
15	Nellore	21	18	1,602	83	28	7	8	11	8	2	10	212	362	110	84	44	480	401	881	0·7	0·6	0·7	1·5
16	Nīlgiris, The	6	4	57	6	...	...	1	7	...	2	...	...	...	...	...	...	9	1	10	0·1	0·02	0·1	0·1
17	North Arcot	29	27	2,326	321	798	451	371	214	46	10	32	37	9	3	10	40	1,051	970	2,021	1·1	1·0	1·0	1·7
18	Rāmnād	31	28	3,408	144	393	160	18	6	1	4	14	86	180	237	278	324	854	847	1,701	1·1	1·0	1·0	2·1
19	Salem	15	11	2,255	191	532	233	200	95	29	187	116	...	...	...	11	10	728	685	1,413	0·8	0·8	0·8	1·7
20	South Arcot	19	17	2,351	381	1,090	565	425	250	146	74	7	10	...	3	4	173	1,496	1,251	2,747	1·3	1·1	1·2	2·0
21	South Canara	11	10	805	70	154	54	5	2	...	...	3	19	74	49	7	13	170	210	380	0·3	0·8	0·3	1·3
22	Tanjore	30	30	2,527	979	2,533	777	193	70	27	62	243	233	164	65	203	1,304	3,101	2,773	5,874	2·8	2·2	2·5	3·5
23	Tinnevelly	35	30	1,168	400	797	235	70	31	22	24	48	3	1	4	31	945	1,150	1,061	2,211	1·3	1·1	1·2	2·5
24	Trichinopoly	17	14	1,381	295	622	273	195	63	24	26	59	70	39	14	4	24	787	626	1,413	0·8	0·6	0·7	1·7
25	Vizagapatam Plains ...	28	2	2,609	8	...	...	...	1	...	...	...	...	...	2	...	...	1	2	3	0·001	0·002	0·001	1·1
	Total, Madras Presidency ...	500	358	44,056	4,892	11,484	4,361	2,607	1,582	978	1,937	3,980	2,866	1,720	1,000	1,211	4,009	19,854	17,876	37,730	1·0	0·9	0·9	1·9

No. VIII.—*Deaths registered from Small-pox in the districts of the Madras Presidency during each month of the year 1913.*

1	2	3		4		5												6			7		8			9
		Circles of registration.		Villages.														Total.			Number of deaths among children.		Ratio of deaths per 1,000 of population.			
Number.	Districts.	Number in each district.	Number from which deaths from small-pox were reported.	Number in each district.	Number from which deaths from small-pox were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Under 1 year.	From 1 to 10 years.	Males.	Females.	Total.	Mean ratio per 1,000 for previous 5 years.
1	Anantapur ...	22	13	846	72	21	13	6	24	33	25	42	27	24	28	67	79	186	203	389	157	169	0·4	0·4	0·4	0·2
2	Bellary	20	14	949	218	33	19	32	38	26	50	71	63	55	79	88	186	385	355	740	347	312	0·8	0·7	0·7	0·8
3	Chingleput	20	17	2,157	184	35	16	43	23	31	20	25	45	36	41	72	44	227	204	431	259	113	0·3	0·3	0·3	0·3
4	Chittoor	14	12	2,447	119	78	66	64	34	37	31	50	40	90	79	89	69	381	346	727	414	227	0·6	0·6	0·3	0·4
5	Coimbatore	22	20	1,350	423	234	281	246	224	227	168	174	146	115	131	95	118	1,096	1,058	2,154	1,000	595	1·1	1·0	1·0	0·7
6	Cuddapah	17	11	882	189	32	24	12	16	23	12	21	38	21	28	26	32	144	141	285	172	81	0·3	0·3	0·3	0·5
7	Ganjām Plains	18	12	4,154	315	27	27	56	61	61	70	75	68	57	49	28	51	314	316	630	267	192	0·4	0·3	0·3	...
	Ganjām Agency	6	4	2,056	4	...	..	...	1	...	...	...	7	..	1	...		4	5	9	3	5	0·9	1·1	1·0	...
	Total ...	24	16	6,210	319	27	27	56	62	61	70	75	75	57	50	28	51	318	321	639	270	197	0·4	0·3	0·3	0·3
8	Gōdāvari Plains	17	11	823	31	14	10	...	9	11	9	9	7	10	22	10	6	56	61	117	36	31	0·1	0·1	0·1	...
	Gōdāvari Agency ...	5	2	1,102	12	2	...	...	...	...	3	4	2	...	1	1	...	7	6	13	6	2	0·1	0·1	0·1	...
	Total ...	22	13	1,935	43	16	10	...	9	11	12	13	9	10	23	11	6	63	67	130	42	33	0·1	0·1	0·1	0·5
9	Guntūr	21	13	945	67	40	37	23	26	21	19	12	10	32	40	48	124	222	210	432	169	172	0·3	0·2	0·3	0·5
10	Kistna	26	20	1,715	146	41	62	53	60	47	42	41	40	43	54	22	11	268	248	516	287	111	0·3	0·2	0·3	0·4
11	Kurnool	12	11	809	81	17	11	11	21	13	16	3	15	17	15	28	120	147	140	287	243	8	0·3	0·3	0·3	0·3
12	Madras	1	1	1	1	3	2	6	3	3	4	1	1	4	2	3	2	18	16	34	9	6	0·1	0·1	0·1	0·3
13	Madura	19	15	1,108	257	103	33	41	56	82	80	40	57	45	54	75	94	396	364	760	262	319	0·4	0·4	0·4	0·5
14	Malabar	18	15	2,213	128	57	60	79	49	42	31	28	20	17	12	7	2	184	220	404	30	50	0·1	0·1	0·1	0·7
15	Nellore	21	15	1,602	164	66	40	38	29	32	52	62	79	72	76	62	53	343	318	661	420	193	0·5	0·5	0·5	0·8
16	Nilgiris, The	6	4	57	8	...	..	...	7	2	10	4	2	2	1	1	...	26	3	29	10	9	0·4	0·1	0·3	0·2
17	North Arcot	29	22	2,326	242	119	114	107	106	83	79	97	155	120	96	107	118	642	659	1,301	585	466	0·7	0·7	0·7	0·8
18	Rāmnād	31	14	3,408	38	38	39	25	44	41	17	31	49	51	47	38	49	218	251	469	213	155	0·3	0·3	0·3	0·6
19	Salem	15	14	2,255	184	105	85	62	106	82	101	79	95	64	61	74	47	476	485	961	413	271	0·5	0·5	0·5	0·2
20	South Arcot	19	13	2,851	332	173	124	202	146	99	58	67	51	130	32	94	123	634	665	1,299	562	487	0·5	0 6	0 6	0·7
21	South Canara	11	9	805	62	8	26	17	22	20	20	13	14	16	33	16	22	131	96	227	95	59	0·2	0·2	0·2	0·6
22	Tanjore	30	21	2,527	223	69	37	46	45	50	42	49	52	63	85	73	90	354	347	701	289	150	0·3	0·3	0 3	0·6
23	Tinnevelly	35	10	1,168	80	7	4	1	4	4	12	7	15	7	7	6	18	49	43	92	48	22	0·1	0 05	0·1	0·2
24	Trichinopoly	17	11	1,381	263	51	61	58	91	71	101	109	96	75	58	72	101	482	462	944	330	329	0 5	0·4	0·4	0·4
25	Vizagapatam Plains ...	28	15	2,609	64	7	10	16	25	40	18	28	17	14	6	4	5	89	101	190	48	83	0·1	0·1	0·1	0·9
	Total, Madras Presidency ...	500	339	44,056	3,907	1,380	1,201	1,244	1,270	1,181	1,085	1,142	1,211	1,180	1,138	1206	1,564	7,479	7,323	14,802	6,674	4,617	0·4	0·4	0·4	0·5

No. IX.—*Deaths registered from Fevers in the districts of the Madras Presidency during each month of the year* 1913

1	2	3		4		5															7			8
		Circles of registration.		Villages.														Total.			Ratio of deaths per 1,000 of population.			
Number.	Districts.	Number in each district.	Number from which deaths from fevers were reported.	Number in each district.	Number from which deaths from fevers were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous 5 years.
1	Anantapur	22	20	846	345	290	186	168	183	175	206	205	219	184	239	268	262	1,324	1,261	2,585	2·7	2·7	2·7	2·9
2	Bellary	20	20	949	450	144	152	170	244	149	194	200	193	179	185	291	217	1,278	1,040	2,318	2·6	2·1	2·4	2·4
3	Chingleput	20	20	2,157	772	448	391	500	401	390	290	345	368	358	350	429	419	2,355	2,334	4,689	3·3	3·3	3 3	3·5
4	Chittoor	14	14	2,447	2,447	799	519	513	543	519	575	598	603	596	680	738	811	3,752	3,742	7,494	6·0	6·1	6 1	6 7
5	Coimbatore	22	21	1,350	658	787	552	400	344	345	407	483	451	389	444	540	506	2,722	2,926	5,648	2·6	2·7	2·7	3·3
6	Cuddapah	17	17	882	882	760	615	379	659	547	591	549	624	529	575	666	669	3,667	3,496	7,163	8·1	7·9	8·0	16·4
7	Ganjām Plains ...	18	18	4,154	3,339	1,773	1,318	1,801	2,098	1,874	1,861	2,047	2,306	2,115	2,101	2,142	2,465	12,078	11,823	23,901	13·9	11·8	12·8	..
	Ganjām Agency ...	6	6	2,056	46	9	12	1	35	22	12	16	29	16	14	9	18	91	102	193	20·8	22·8	21·8	...
	Total ...	24	24	6,210	3,385	1 782	1,330	1,802	2,133	1,896	1,873	2,063	2,335	2,131	2,115	2,151	2,483	12,169	11,925	24,094	13 9	11·9	12·8	14·5
8	Gōdāvari Plains ...	17	17	833	833	1,467	867	685	492	815	925	1,070	1,203	848	1,089	1,271	1,245	6,164	5,813	11,977	8·7	7·9	8·3	...
	Gōdāvari Agency ...	5	5	1,102	447	257	186	120	115	89	122	107	66	228	166	256	200	1,041	871	1,912	10·0	8·5	9·2	...
	Total ...	22	22	1,935	1,280	1,724	1,053	805	607	904	1,047	1,177	1,269	1,076	1,255	1,527	1,445	7,205	6,684	13,889	8·9	8 0	8·4	11·2
9	Guntūr	21	21	945	945	1,426	1,020	1,114	1,222	1,447	1,695	1,677	1,856	1,691	1,599	1,479	1,572	9,127	8,671	17,798	10 7	10·3	10·5	10·7
10	Kistna	26	26	1,715	1,169	1,425	947	991	1,044	1,229	1,391	1,478	1,705	1,688	1,390	1,547	1,958	8,631	8,162	16,793	8·7	8·1	8·4	10·1
11	Kurnool	12	12	809	722	959	735	705	857	765	733	917	1,049	941	1,024	1,045	1,093	5,501	5,322	10,823	11·7	11·5	11·6	14·3
12	Madras	1	1	1	1	486	405	387	344	327	306	271	291	199	245	223	313	1,873	1,924	3,797	7·2	7·8	7·5	9·9
13	Madura	19	19	1,108	682	838	486	521	604	650	668	680	662	623	639	812	996	4,154	4,025	8,179	4 4	4·1	4·2	5·0
14	Malabar	18	18	2,213	767	2,929	2,376	2,438	2,325	2,039	2,126	2,447	2,323	1,704	1,640	1,473	1,659	13,077	12,402	25,479	8·9	8·1	8·5	8·2
15	Nellore	21	21	1,602	1,077	1,229	847	886	833	882	1,028	1,046	1,251	1,106	922	898	761	6,258	5,431	11,689	9·4	8·2	8·8	10·7
16	Nilgiris, The	6	6	57	57	58	46	69	71	99	108	99	104	67	70	62	54	469	438	907	7·7	8·3	8·0	7·8
17	North Arcot	29	26	2,326	670	498	367	333	316	329	350	345	378	351	363	427	461	2,221	2,297	4,518	2·3	2·3	2·3	3·6
18	Rāmnād	31	30	3,408	820	1,023	786	738	694	672	695	858	713	735	868	886	1,238	4,974	4,932	9,906	6·3	5·7	6·0	5·4
19	Salem	15	14	2,255	972	1,019	661	648	617	696	809	777	785	785	864	993	945	4,765	4,829	9,594	5·4	5·4	5·4	6·5
20	South Arcot	19	19	2,351	1,079	1,281	938	852	904	1,054	986	777	976	901	939	1,073	1,231	5,981	5,931	11,912	5·1	5·0	5·0	6·0
21	South Canara ...	11	11	805	625	1,277	999	836	701	620	649	789	740	672	607	560	618	4,525	4,543	9,068	7·9	7·4	7·6	9·4
22	Tanjore	30	29	2,527	1,456	848	648	585	638	634	618	768	738	667	670	744	661	4,032	4,187	8,219	3·6	3·4	3·5	3·8
23	Tinnevelly	35	34	1,168	934	1,078	750	634	548	600	533	552	562	536	548	776	1,136	4,032	4,219	8,251	4·7	4·6	4·6	4·9
24	Trichinopoly	17	17	1,381	1,084	837	651	656	843	695	817	912	859	805	888	1,055	1,071	4,970	5,119	10,089	4·9	4·7	4·8	5·1
25	Vizagapatam Plains ...	28	28	2,609	2,198	3,165	2,451	2,304	2,192	2,447	2,628	2,907	3,103	2,785	3,048	2,692	3,400	16,796	16,326	33,122	16·0	14·6	15·3	18·3
	Total, Madras Presidency ...	500	490	44,056	25,477	27,110	19,911	19,429	19,867	20,110	21,323	22,920	24,157	21,698	22,165	23,355	25,979	135,858	132,166	268,024	6·9	6·5	6·7	7·8

No. X.—*Deaths registered from Dysentery and Diarrhœa in the districts of the Madras Presidency during each month of the year* 1913.

1	2	3		4		5												6			7			8
		Circles of registration.		Villages.														Total.			Ratio of deaths per 1,000 of population.			
Number.	Districts.	Number in each district.	Number from which deaths from dysentery and diarrhœa were reported.	Number in each district.	Number from which deaths from dysentery and diarrhœa were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous 5 years.
1	Anantapur	22	18	846	246	65	45	60	63	45	61	68	61	63	83	81	79	405	369	774	0·8	0·8	0·8	1·3
2	Bellary	20	20	949	286	94	72	90	98	102	123	154	153	117	155	146	152	753	703	1,456	1·5	1·4	1·5	2·0
3	Chingleput	20	19	2,157	640	374	287	282	250	253	244	275	344	275	265	336	338	1,831	1,692	3,523	2·6	2·4	2·5	2·6
4	Chittoor	14	14	2,447	1,733	196	118	108	86	107	119	129	166	142	133	161	268	886	847	1,733	1·4	1·4	1·4	1·3
5	Coimbatore	22	21	1,350	638	529	410	400	368	323	420	435	475	402	456	501	466	2,551	2,634	5,185	2·4	2·5	2·4	2·3
6	Cuddapah	17	14	882	528	78	60	41	92	43	42	57	52	103	56	46	51	376	345	721	0·8	0·8	0·8	0·8
7	Ganjām Plains ...	18	18	4,154	627	124	69	142	170	152	170	257	239	208	164	151	163	1,103	906	2,009	1·3	0·9	1·1	...
	Ganjām Agency ...	6	1	2,056	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1	0·2	...	0·1	...
	Total ...	24	19	6,210	628	124	69	142	170	152	170	257	240	208	164	151	163	1,104	906	2,010	1·3	0·9	1·1	1·2
8	Gōdāvari Plains ...	17	17	833	182	76	22	58	44	64	82	82	88	86	54	49	63	369	399	768	0·5	0·5	0·5	...
	Gōdāvari Agency ...	5	5	1,102	86	16	5	6	6	4	7	3	6	6	17	5	5	48	38	86	0·5	0·4	0·4	...
	Total ...	22	22	1,935	268	92	27	64	50	68	89	85	94	92	71	54	68	417	437	854	0·5	0·5	0·5	1·0
9	Guntūr	21	19	945	359	52	111	104	102	101	82	175	227	150	88	77	93	686	676	1,362	0·8	0·8	0·8	0·8
10	Kistna	26	25	1,715	319	64	55	70	73	95	97	172	178	98	100	71	74	628	519	1,147	0·6	0·5	0·5	0·8
11	Kurnool	12	12	809	124	43	29	21	29	16	21	61	75	42	40	58	40	265	210	475	0·6	0·5	0·5	0·9
12	Madras	1	1	1	1	547	489	461	417	392	442	421	417	296	291	343	604	2,577	2,543	5,120	9·9	10·4	10·2	7·5
13	Madura	19	19	1,108	505	379	164	164	158	152	208	226	220	223	245	305	463	1,497	1,400	2,897	1·6	1·4	1·5	1·4
14	Malabar	18	17	2,213	717	2,104	1,637	1,112	921	870	915	1,223	1,134	529	428	352	444	6,247	5,422	11,669	4·2	3·5	3·9	3·2
15	Nellore	21	21	1,602	148	77	42	35	37	43	27	42	65	48	515	589	602	1,036	1,086	2,122	1·6	1·6	1·6	0·6
16	Nilgiris, The	6	6	57	38	33	27	33	32	57	83	59	41	52	53	46	35	293	258	551	4·8	4·9	4·8	4·8
17	North Arcot	29	28	2,326	849	608	376	343	285	264	309	396	342	379	462	487	660	2,491	2,420	4,911	2·6	2·4	2·5	2·1
18	Rāmnād	31	29	3,408	150	153	119	119	126	149	99	94	127	120	181	223	415	955	970	1,925	1·2	1·1	1·2	0·9
19	Salem	15	14	2,255	466	270	138	141	135	124	119	125	161	124	186	224	268	1,035	980	2,015	1·2	1·1	1·1	1·3
20	South Arcot	19	19	2,351	494	462	309	310	206	2.6	216	161	192	283	337	317	322	1,708	1,623	3,331	1·5	1·4	1·4	1·4
21	South Canara	11	11	805	570	909	493	323	209	191	159	287	192	190	184	184	222	1,826	1,667	3,493	3·2	2·7	2·9	3·4
22	Tanjore	30	30	2,527	778	471	257	199	136	156	184	273	237	257	260	395	522	1,695	1,652	3,347	1·5	1·3	1·4	1·3
23	Tinnevelly	35	33	1,168	395	270	149	137	102	79	109	122	123	130	145	229	489	1,058	1,026	2,084	1·2	1·1	1·2	1·3
24	Trichinopoly	17	17	1,381	466	177	130	123	129	116	140	207	196	190	198	249	292	1,109	1,038	2,147	1·1	1·0	1·0	0·9
25	Vizagapatam Plains ...	28	24	2,609	234	54	49	84	55	67	84	89	98	109	80	29	61	431	428	859	0·4	0·4	0·4	0·6
	Total, Madras Presidency ...	500	472	44,056	11,580	8,225	5,652	4,666	4,329	4,181	4,562	5,543	5,610	4,622	5,176	5,654	7,191	33,860	31,851	66,711	1·7	1·6	1·6	1·6

No. XI.—*Deaths registered from Respiratory Diseases in the districts of the Madras Presidency during each month of the year* 1913.

1	2	3		4		5												6			7			8
		Circles of registration.		Villages.														Total.			Ratio of deaths per 1,000 of population.			
Number.	Districts.	Number in each district.	Number from which deaths from respiratory diseases were reported.	Number in each district.	Number from which deaths from respiratory diseases were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous 5 years.
1	Anantapur	22	20	846	376	192	150	132	150	129	161	162	142	149	176	162	187	1,028	864	1,892	2·1	1·8	2·0	2·2
2	Bellary	20	18	949	276	98	85	82	110	70	69	101	87	100	101	128	128	592	567	1,159	1·2	1·2	1·2	1·3
3	Chingleput	20	18	2,157	340	165	96	109	91	110	101	108	118	118	121	148	114	735	634	1,399	1·1	0·9	1·0	0·8
4	Chittoor	14	14	2,447	1,757	212	175	130	133	122	110	60	148	159	148	180	180	958	799	1,757	1·5	1·3	1·4	1·2
5	Coimbatore	22	19	1,350	438	351	224	198	198	204	218	228	276	219	241	280	324	1,551	1,410	2,961	1·5	1·3	1·4	1·3
6	Cuddapah	17	15	882	872	127	120	117	141	119	93	99	117	77	112	120	100	760	582	1,342	1·7	1·8	1·5	1·0
7	Ganjām Plains ...	18	17	4,154	194	39	39	48	37	39	41	56	64	52	57	47	51	302	268	570	0·3	0·3	0·3	...
	Ganjām Agency ...	6	...	2,056	..	...	...	.	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
	Total ..	24	17	6,210	194	39	39	48	37	39	41	56	64	52	57	47	51	302	268	570	0·3	0·3	0·3	0·2
8	Gōdāvari Plains ...	17	14	833	262	118	101	99	51	85	56	93	114	101	124	121	138	694	507	1,201	1·0	0·6	0·8	...
	Gōdāvari Agency ...	5	4	1,102	34	6	11	6	6	5	7	5	11	14	7	13	12	56	47	103	0·5	0·5	0·5	...
	Total ...	22	18	1,935	296	124	112	105	57	90	63	98	125	115	131	134	150	750	554	1,304	0·9	0·7	0·8	0·8
9	Guntūr	21	21	945	331	180	103	94	112	96	144	162	207	155	182	166	122	968	755	1,723	1·1	0·9	1·0	0·8
10	Kistna	26	24	1,715	599	323	237	218	203	237	302	288	309	277	412	400	378	1,877	1,707	3,584	1·9	1·7	1·8	1·7
11	Kurnool	12	11	809	224	61	47	37	40	41	64	53	61	54	61	71	61	361	280	641	0·8	0·6	0·7	0·5
12	Madras	1	1	1	1	282	201	206	186	213	281	190	247	180	229	213	272	1,396	1,304	2,700	5·4	5·3	5·3	4·1
13	Madura	19	16	1,108	400	168	125	107	87	107	121	149	113	103	139	169	180	937	631	1,568	1·0	0·6	0·8	0·7
14	Malabar	18	16	2,213	468	427	337	346	299	288	318	414	378	369	325	272	272	2,254	1,791	4,045	1·5	1·2	1·3	1·3
15	Nellore	21	18	1,602	60	6	10	31	31	20	25	34	35	33	...	...	...	122	103	225	0·2	0·2	0·2	0·2
16	Nilgiris, The	6	5	57	17	23	22	14	26	29	30	26	29	39	36	44	23	208	138	341	3·3	2·6	3·0	2·6
17	North Arcot	29	23	2,326	391	225	157	174	135	151	147	164	146	132	189	226	210	1,110	946	2,056	1·1	1·0	1·0	0·9
18	Rāmnād	31	27	3,408	98	89	77	90	93	73	87	101	91	90	120	126	161	639	559	1,198	0·8	0·6	0·7	0·5
19	Salem	15	18	2,255	293	132	96	104	116	98	94	101	96	87	101	91	121	697	540	1,237	0·8	0·6	0·7	0·7
20	South Arcot ...	19	18	2,351	349	206	170	157	124	157	140	131	126	164	157	162	127	974	847	1,821	0·8	0·7	0·8	0·7
21	South Canara	11	10	805	357	163	93	89	76	96	86	97	84	82	88	90	91	596	539	1,135	1·0	0·9	0·9	1·0
22	Tanjore	30	25	2,527	327	113	83	78	80	94	87	85	94	76	105	109	126	638	492	1,130	0·6	0·4	0·5	0·5
23	Tinnevelly	35	26	1,168	142	87	63	84	69	55	76	95	73	64	85	111	131	585	408	993	0·7	0·4	0·6	0·5
24	Trichinopoly ...	17	14	1,381	244	96	69	66	73	87	71	89	77	62	86	96	148	541	479	1,020	0·5	0·4	0·5	0·4
25	Vizagapatam Plains ...	28	22	2,609	131	49	42	35	27	40	48	47	30	68	56	36	53	290	236	526	0·3	0·2	0·2	0·2
	Total, Madras Presidency ...	500	429	44,056	8,981	3,928	2,933	2,851	2,694	2,765	2,972	3,138	3,273	3,024	3,458	3,581	3,710	20,844	17,483	38,327	1·1	0·9	1·0	0·9

No. XII.—*Deaths registered from Plague in the districts of the Madras Presidency during each month of the year* 1913.

1	2	3		4		5												6			7			8
		Circles of registration.		Villages.														Total.			Ratio of deaths per 1,000 of population.			
Number.	Districts.	Number in each district.	Number from which deaths from plague were reported.	Number in each district.	Number from which deaths from plague were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous 5 years.
1	Anantapur	22	8	846	13	34	32	17	8	1	..	...	...	...	1	12	10	65	50	115	0·1	0·1	0·1	0·2
2	Bellary	20	11	949	99	76	68	23	1	3	21	31	45	78	50	72	101	325	244	569	0·7	0·5	0·6	2·5
3	Chingleput	20	1	2,157	1	...	...	..	...	...	...	..	...	..	...	...	2	1	1	2	0·001	0·001	0·001	0·001
4	Chittoor	14	9	2,447	19	36	1	5	4	1	...	...	..	2	1	2	2	30	24	54	0·05	0·04	0·04	0·1
5	Coimbatore	22	18	1,350	127	295	212	96	20	17	32	88	84	94	257	334	514	1,093	950	2,043	1·0	0·9	1·0	0·9
6	Cuddapah	17	7	882	15	38	44	9	..	...	..	...	...	...	...	...	...	53	38	91	0·1	0·1	0·1	0·02
7	Ganjām Plains ...	18	1	4,154	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...	1	0·001	..	0·001	...
	Ganjām Agency ...	6	...	2,056	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ..	24	1	6,210	1	...	...	...	...	...	...	1	...	...	...	...	...	1	..	1	0·001	...	0·001	...
8	Gōdāvari Plains ...	17	...	833	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gōdāvari Agency ...	5	...	1,102	...	...	...	...	..	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	22	...	1,935	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·005
9	Guntūr	21	...	945	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	Kistna	26	...	1,715	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·002
11	Kurnool	12	...	809	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·001
12	Madras	1	1	1	1	...	...	...	...	1	1	...	...	...	...	...	1	3	...	3	0·01	...	0·01	0·01
13	Madura	19	1	1,108	2	...	...	...	...	...	...	...	7	1	...	...	...	3	5	8	0·008	0·01	0·004	0·1
14	Malabar	18	4	2,213	4	1	7	...	1	...	...	...	...	1	1	2	2	11	4	15	0·01	0·003	0·005	0·1
15	Nellore	21	...	1,602	...	...	...	...	...	...	...	...	...	...	...	...	...	..	..	...	...	...	...	0·001
16	Nilgiris, The	6	4	57	6	2	...	...	...	...	...	...	2	3	11	17	15	28	22	50	0·5	0·4	0·4	1·1
17	North Arcot	29	22	2,326	301	180	180	192	40	7	...	1	...	1	58	304	772	800	935	1,735	0·8	0·9	0·9	0·2
18	Rāmnād	31	...	3 408	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	Salem	15	10	2,255	25	21	19	9	...	...	1	2	...	1	5	9	22	51	38	89	0·1	0·04	0·1	0·6
20	South Arcot	19	...	2,351	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	0·004
21	South Canara	11	7	805	16	12	21	46	37	20	7	35	56	32	18	12	16	157	155	312	0·3	0·3	0·3	0·2
22	Tanjore	30	3	2,527	3	...	1	...	...	...	...	...	...	...	...	2	37	17	23	40	0·02	0·02	0·02	0·001
23	Tinnevelly	35	...	1,168	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
24	Trichinopoly	17	1	1,381	1	...	...	...	...	1	...	...	...	...	1	...	...	1	1	2	0·001	0·001	0·001	0·01
25	Vizagapatam Plains ...	28	1	2,609	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...	1	0·001	...	0 0005	...
	Total, Madras Presidency ...	500	109	44,056	635	695	585	397	112	51	62	158	194	213	403	766	1,494	2,640	2,490	5,130	0·1	0·1	0·1	0·2

No. XIII.—*Statement prescribed by the Government of India, Home Department (Sanitary), in Letter No.* 10—326, *dated 8th December* 1894, *communicated with G.O. Mis. No.* 2654 *L., dated 20th December* 1894.

(Comparative table showing percentage of mortality to total mortality from year to year under each head of death causation.)

1	2		3		4					5		6				
Name of municipality.	Date of completion of works of		Average annual death-rate since the introduction of drainage system or water-supply.		Percentage of deaths to total mortality under each head of death causation.					Average annual death-rate for the five-year period preceding the introduction of drainage system or water-supply.		Percentage of deaths to total mortality under each head of death causation.				
	Drainage.	Water-supply.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	All other causes.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	All other causes.
Adoni	.	1895	1895	23·6	0·3	...	38·1	0·3	61·3	1890	19·2	...	...	51·6	...	48·4
			1896	25·4	1·0	0·1	31·2	0·9	66·8	1891	38·1	41·9	..	31·0	0·4	26·7
			1897	37·9	9·3	...	31·7	3·9	55·1	1892	31·7	13·1	..	38·1	3·0	45·8
			1898	26·5	...	0·3	29·7	5·3	64·7	1893	22·2	...	...	51·7	0·3	48·0
			1899	24·1	0·1	...	22·1	2·4	75·4	1894	24·3	0·3	...	37·0	...	62·7
			1900	24·4	...	...	34·9	5·3	59·8	...	...	...	...	...	...	...
			1901	20·1	0·3	...	30·0	2·9	66·8	...	...	...	...	...	...	...
			1902	56·5	11·2	...	2·4	0·9	85·5	...	...	...	...	...	...	...
			1903	23·1	...	0·6	6·0	10·9	82·5	...	...	...	...	...	...	...
			1904	71·3	...	...	2·8	2·6	94·6	...	...	...	...	...	...	...
			1905	31·1	0·3	17·2	5·7	11·3	65·5	...	...	...	...	...	...	...
			1906	39·8	13·4	0·4	5·1	16·8	64·3	...	...	...	...	...	...	...
			1907	24·2	0·3	1·2	3·8	13·2	81·5	...	...	...	...	...	...	...
			1908	26·3	6·6	...	10·9	10·4	72·1	...	...	...	...	...	...	...
			1909	25·5	1·2	1·9	13·5	11·9	71·5	...	...	...	...	...	...	...
			1910	30·1	...	0·3	9·5	6·6	83·6	...	...	...	...	...	...	...
			1911	33·6	...	0·4	8·9	6·5	84·2	...	...	...	...	...	...	...
			1912	33·3	6·9	...	12·7	10·6	69·8	...	...	...	...	...	...	...
			1913	29·4	...	4·6	11·6	8·3	75·5	...	...	...	...	...	...	...
Beswada		1909 ...	1909	38·7	...	1·7	11·9	8·9	76·5	1904	38·4	0·1	...	15·1	10·1	74·7
			1910	42·6	1·9	0·1	13·4	15·0	69·6	1905	45·8	11·8	.	8·6	8·3	68·3
			1911	30·5	12·2	0·6	13·7	10·8	62·7	1906	46·8	11·6	0·3	11·4	8·0	68·7
			1912	30·4	1·0	..	11·3	10·3	77·4	1907	35·2	4·2	0·3	14·6	8·2	72·7
			1913	26·1	...	...	10·3	9·2	80·5	1908	56·3	21·9	0·4	8·7	10·3	58·7
Cocanada .	.	1903 .. .	1903	20·4	1·0	...	19·9	12·2	66·9	1898	20·5	...	...	15·7	6·3	78·0
			1904	25·8	...	...	23·9	13·3	62·8	1899	23·1	...	1·3	19·2	9·1	70·4
			1905	28·8	2·3	...	18·8	11·3	67·6	1900	26·1	9·6	0·8	18·8	10·1	60·7
			1906	37·5	11·0	1·1	12·6	12·5	62·8	1901	23·8	2·1	5·4	18·9	10·5	63·1

No. XIII.—*Statement prescribed by the Government of India, Home Department (Sanitary), in Letter No.* 10—326, *dated 8th December* 1894, *communicated with G.O. Mis. No.* 2654 *L., dated 20th December* 1894—cont.

(Comparative table showing percentage of mortality to total mortality from year to year under each head of death causation.)

1	2		3		4					5		6				
Name of municipality.	Date of completion of works of		Average annual death-rate since the introduction of drainage system or water-supply.		Percentage of deaths to total mortality under each head of death causation.					Average annual death-rate for the five-year period preceding the introduction of drainage system or water-supply.		Percentage of deaths to total mortality under each head of death causation.				
	Drainage.	Water-supply.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	All other causes.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	All other causes.
ocanada—*cont.*	..	1903 ...	1907	29·9	1·3	0·1	10·5	16·3	71·8	1902	21·8	...	0·1	22·6	12·5	64·8
			1908	30·6	2·2	1·8	12·9	13·7	69·4	..	.	..	...	...	...	...
			1909	35·4	..	17·1	13·2	10·7	59·0		..	...	...	...	...	...
			1910	30·8	..	0·2	14·5	14·3	71·0	.		...		...	...	...
			1911	23·1	0 6	0·2	21·6	11·6	66 0	...	...	...	...	..	...	...
			1912	29·9	2·0	.	26·4	15·1	56·5	..	...	...		..	.	...
			1913	21·3		0 1	24·8	9·9	65·2	..		..	.	.	..	.
			1897	22·3	6·6	0·1	21·3	10·7	61·0	1892	32·5	2·7	1·5	24·1	12·2	59·5
			1898	29·4	1·1	0·6	13·5	13·0	71·8	1893	33·0	1·3	2·2	26·0	13·0	57·5
			1899	29·8	1·9	0·7	2·1	16·5	78·8	1894	30·6	4·5	0·5	26·8	10·5	57·7
			1900	31·2	2·0	1·6	4·5	14·2	77·7	1895	33·6	5·3	0·8	25·2	11·7	57·0
			1901	35·5	2·8	1·0	10·8	17·7	67·7	1896	33·3	9·6	0·1	23·8	10·6	55·9
			1902	32 8	0·1	1·0	11·6	25·9	61·4	...	...	...	...	..	...	...
			1903	32·4	.	0·7	11·0	19·7	68·6	...	...	...	...	...	...	...
onjeeveram	..	1897 ...	1904	32·0	1·2	0·1	6·9	19·7	72·1	...	...	...	...	...	...	...
			1905	28·8	0·3	6·0	5·8	18·3	69·6	...	...	...	...	..	...	...
			1906	34·3	6·6	5·3	5·1	18·2	64·8	...	...	...	...	...	...	...
			1907	26·8	1·1	...	8·5	17·5	72·6	...	..	...	...	...	...	...
			1908	28·5	9·3	0·1	4·0	13·8	72·8	...	..	...	...	...	...	...
			1909	30·4	..	0·3	8·5	18·4	72·8	..	...	.	...	...	...	...
			1910	37·2			6·8	20·5	72·7	...	...	...	...	...	.	...
			1911	30·0	0·2	1·1	8 6	20·3	69·8	..	...	...	...	...	...	...
			1912	34·4	4·0	0·1	4·1	13·7	78·1	. .	...	...	...	.	...	...
			1913	33·4	0·2	1·3	3·6	16·7	78·2	...	...	...	...	..	...	..
			1893	31·9	1·6	...	30·6	17·6	50·2	1888	28·4	...	1·5	34·6	17·6	46·3
			1894	31·9	2·6	...	28·0	19·7	49·7	1889	26·9	5·4	...	27·1	14·7	52·8
			1895	27·9	...	. .	21·9	13·6	64·5	1890	42·7	1·5	1·5	39·2	13·7	44·1
			1896	41·3	2·8	0·4	22·4	17·6	56·8	1891	29·4	5·6	2·2	22·5	14·1	55·6
			1897	43·8	5·6	0·4	20·8	15·5	57·7	1892	37·0	0·5	1·3	44·2	15·2	38·8
			1898	34·6	. .	...	14·8	17·2	68·0	...	...	...	...	...	..	...
			1899	28·6	..	...	9·4	22·9	67·7	...	...	...	..	...	..	...
			1900	36·5	...	1·4	20·4	19·4	58·8	...	...	...	...	...	...	..

...	...	1893 ...	...	1901	24·4	1·0	...	20·2	14·9	63·9	...	...	...	...	...	...	...
				1902	29·0	...	...	25·1	19·0	55·9	...	...	...	...	...	...	...
				1903	46·0	...	...	8·2	16·3	75·5	...	...	...	...	...	...	...
				1904	27·6	...	...	3·0	23·4	78·6	...	...	...	...	...	...	...
				1905	37·0	...	...	1·6	19·7	78·7	...	...	...	...	...	...	...
				1906	44·4	1·1	22·4	0·8	16·6	59·1	...		...	...	...	...	...
				1907	31·4	...	...	1·1	17·2	81·7	...	...	...	...	...	...	...
				1908	26·6	0·4	...	4·8	20·3	74·5	...	...	...	...	...	...	...
				1909	32·5	0·7	...	4·0	15·9	79·4	...	...	...	...	...	...	...
				1910	29·0	...	...	0·8	14·2	85·0	...	...	...	...	...	...	...
				1911	31·4	1·6	0·3	1·6	16·3	80·2	...	...	...	...	...	...	...
				1912	26·0	0·4	1·9	0·8	14·7	82·2	...	...	...	...		...	...
				1913	30·4	0·3	...	3·0	15·2	81·5	...	...	...	...	...	...	...
...	...	1893	...	1893	46·9	...	1·5	68·0	2·0	28·5	1888	81·7	15·4	2·5	26·6	5·8	49·7
				1894	33·9	...	1·9	49·9	4·4	48·8	1889	30·5	13·3	1·0	30·2	8·3	46·9
				1895	32·9	...	0·3	54·9	5·2	39·6	1890	43·0	9·4	0·9	50·1	3·0	36·8
				1896	21·7	0·5	5·6	46·6	3·7	43·6	1891	29·3	7·8	1·6	49·4	6·2	35·0
				1897	28·5	4·3	0·2	42·0	2·6	50·9	1892	38·3	10·6	0·3	43·8	3·4	41·9
				1898	29·7	0·2	1·8	49·4	2·1	46·5	...	...	...	...	...	...	...
				1899	29·0	...	1·2	47·2	5·4	46·2	...	...	...	...	...	...	...
				1900	31·7	4·0	2·4	31·2	7·6	54·8	...	...	...	...	...	...	...
				1901	29·5	5·8	3·3	32·0	2·7	56·2	...	...	...	...	...	...	...
				1902	21·2	0·3	1·2	31·0	5·5	62·0	...	...	...	...	...	...	...
				1903	27·3	...	0·7	26·6	5·6	67·1	...		...	...	...	...	...
				1904	25·3	...	0·2	26·9	5·8	67·1	...	...	...	...	...	...	...
				1905	28·4	...	...	28·3	5·8	65·9	...	...	...	...	...	...	...
				1906	34·5	0·9	...	35·3	7·4	56·4	...	...	...	...	...	...	...
				1907	37·1	0·3	0·2	25·9	10·8	62·8	...	...	...	...	...	...	...
				1908	50·4	19·6	2·8	21·7	5·5	51·0	...	...	...	...	...	...	...
				1909	30·2	0·6	0·4	24·8	10·5	63·7	...	...	...	...	...	...	...
				1910	36·5	0·5	...	22·5	14·0	63·0	...	...	...	...	...	...	...
				1911	23·0	1·0	...	21·7	9·0	68·3	...	...	...	...	...	...	...
				1912	35·4	13·2	...	11·3	10·3	65·2	...	...	...	...	...	...	...
				1913	19·3	0·6	0·3	10·8	10·2	78·1	...	...	...	...	...	...	...
...	...	1896 ...	...	1896	23·1	9·0	1·1	25·4	11·3	53·2	1891	29·1	25·8	2·6	3·1	1·7	66·8
				1897	22·1	47·3	2·2	14·8	7·0	28·7	1892	20·5	4·3	0·5	7·7	1·5	86·0
				1898	18·9	15·7	1·1	22·3	13·6	47·3	1893	23·5	10·8	0·2	5·4	5·9	77·7
				1899	18·9		10·7	22·0	11·5	55·8	1894	23·7	4·8	...	14·6	8·8	71·8
				1900	25·6	25·2	4·4	15·6	16·0	38·8	1895	21·7	0·9	...	19·2	12·3	67·6
				1901	16·6	11·9	1·2	20·3	18·4	48·2	...	...	...	...	...		...
				1902	17·5	...	0·2	11·1	20·0	68·7	...	...	...	...	...	...	...
				1903	25·5	0·2	...	18·3	21·5	60·0	...	...	...	...	...	...	...
				1904	33·1	0·8	0·8	15·4	16·9	66·1	...	...	...	...	...	...	...
				1905	39·9	0·1	19·9	15·0	14·7	50·3		...	...		...	...	...
				1906	39·6	15·3	2·1	17·3	12·7	52·6	...	...	...			...	...
				1907	37·1	0·8		22·7	16·0	60·5	...	...	...	...	...	...	...
				1908	38·9	10·7		22·1	13·8	53·4	...	...	...	...	...	...	...
				1909	34·9	0·7	...	25·3	14·4	59·6	...	...	...	...	...	...	...
				1910	34·4	0·5		7·6	19·2	72·7	...	...	...	...	...	...	...
				1911	34·4	5·4	5·3	0·5	17·4	71·4	...	...	...	...	...	...	...
				1912	33·1	8·1	0·5	5·8	17·2	68·4	...	...	...	...	...	...	...
				1913	31·7	1·1	0·8	10·2	17·8	70·6	...	...	...	...	...	...	...

No. XIII.—*Statement prescribed by the Government of India, Home Department (Sanitary), in Letter No.* 10—326, *dated* 8*th December* 1894, *communicated with G.O. Mis. No.* 2654 *L., dated* 20*th December* 1894—cont.

(Comparative table showing percentage of mortality to total mortality from year to year under each head of death causation.)

1	2		3		4					5		6				
Name of municipality.	Date of completion of works of		Average annual death-rate since the introduction of drainage system or water-supply.		Percentage of deaths to total mortality under each head of death causation.					Average annual death-rate for the five-year period preceding the introduction of drainage system or water-supply.		Percentage of deaths to total mortality under each head of death causation.				
	Drainage.	Water-supply.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	All other causes.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	All other causes.
Gudiyāttam	..	1908	1908	31·6	21·8	...	25·2	13·4	39·6	1903	29·6	...	4·6	7·9	24·2	63·3
			1909	25·8	7·5	...	25·3	12·9	54·3	1904	27·8	16·5	0·2	7·4	17·2	58·7
			1910	26·6	...	...	27·1	19·5	53·4	1905	23·0	...	2·0	6·1	25·3	66·6
			1911	22·1	...	...	30·2	19·3	50 5	1906	37·1	16·2	13·6	11·8	16·2	12·2
			1912	54·4	8·5	..	10·0	13·5	68·0	1907	23·9	10·4	...	15·9	17·4	56·2
			1913	19·4	0·2	...	5·7	22·9	71·2	...	...	.	...	...	...	..
Guntūr	...	1908	1908	50·7	11·5	4·4	15·8	8·2	60·1	1903	33·3	...	...	15·0	9·6	75·4
			1909	37·4	...	3·2	19·0	4·2	73·6	1904	31·8	...	...	15·3	10·4	74·3
			1910	47·1	..	1·0	23·8	9·1	66·1	1905	34·2	0·7	...	15·4	9·6	74·3
			1911	30·5	1·3	0 7	23·2	5·4	69·4	1906	56·0	11·2	...	17·2	11·1	60·5
			1912	34·7	0·2	0·1	20·6	5·8	73·3	1907	38·6	0·6	0·3	15·3	7·6	76·2
			1913	34·4	...	7·5	18·0	3·2	71·3	..	...	...	...	...	...	...
Kumbakonam	1894 ...	...	1894	37·5	17·3	0·5	18·9	10·0	53·3	1889	34·8	6·9	9·7	14·8	16·2	52·4
			1895	31·2	3·2	0·7	21·9	11·4	62·8	1890	31·6	8·1	10·2	17·2	13·4	51·1
			1896	34·2	9·3	...	20·0	11·6	59·1	1891	30·5	11·3	1·6	20·2	13·0	53·9
			1897	39·9	26·2	...	16·2	11·5	46·1	1892	29·1	9·2	1·3	21·1	13·4	56·0
			1898	30·0	11·8	...	15·1	10·3	62·8	1893	36·2	19·8	1·3	14·5	11·6	52·8
			1899	36·4	13·0	...	14·7	9·3	63·0	...	...	...	...	...	...	.
			1900	30·3	3·4	...	14·6	6·9	75·1	...	...	...	...	...	...	...
			1901	31·9	10·2	0·1	15·9	7·4	66·4	...	...	...	...	...	...	...
			1902	29·1	5·5	0·1	9·6	6·8	78·0	...	...	...	...		..	...
			1903	31·2	6·7	..	10·0	5·9	77·4	...	...	...	.		...	...
			1904	31·6	11·2	...	8·5	9·0	71·3	...	...	...	...	...	...	...
			1905	27·3	..	...	11·0	9·5	79·5	...	...	...	...	...	...	...
			1906	38·8	13·4	7·2	9·6	9·0	60·5	..	...	..	...	...	...	...
			1907	31·9	7·1	2·7	14·4	9·0	66·8	...	...	...	...	...	...	...
			1908	29·9	9·8	0·1	14·5	7·3	68·3	...	...	..	...	...	...	...
			1909	26·7	2 7	0·3	15·5	9·7	71·8	...	...	...	...	...	...	...
			1910	31·0	3·3	0·9	12·0	10·0	73·8	...	...	.	..	...	..	...
			1911	29·2	4·7	1·9	14·3	9·7	69·4	...	...	. .	..	...	...	...

				1912	31·1	4·3	1·5	15·7	9·7	68·8	...	...	...	...	...	...	..
				1913	29·4	3·6	0·7	13·3	9·9	72·5	...	...	...	...	...	...	..
Kurnool	...	1897 ..	...	1897	53·2	11·3	3·2	40·6	12·7	32·2	1892	55·2	10·0	...	56·7	3·3	30·0
				1898	24·6	.	...	50·8	6·0	43·2	1893	30·2	..	...	57·9	4·2	37·9
				1899	27·0	...	..	48·2	15·7	36·1	1894	31·3	3·1	0·1	47·0	4·6	45·2
				1900	29·3	...	0·3	45·6	16·8	37·3	1895	30·5	6·2	0·4	44·0	3·4	46·0
				1901	32·0	...	...	49·9	15·8	34·3	1896	30·4	4·0	1·9	44·1	3·6	46·4
				1902	30·0	2·0	...	37·4	13·9	46·7	...	...	...	...	...	...	...
				1903	29·4	...	0·1	24·8	17·9	57·2	...	...	...	...	...	..	...
				1904	26·1	...	...	19·9	22·0	58·1	...	...	...	...	.	...	...
				1905	35·5	...	2·8	25·7	18·7	52·8	...	...	...	...	...	...	..
				1906	43·5	16·9	1·9	29·3	11·1	40·8	...	...	...	...	...	...	...
				1907	29·5	...	0·1	40·1	25·7	34·1	...	...	...	...	...	...	...
				1908	36·8	2·5	0·4	45·7	22·8	28·6	...	...	...	...	...	...	...
				1909	34·4	0·1	0·1	46·9	19·8	33·1	...	...	...	...	...	...	..
				1910	37·6	...	...	46·0	19·1	34·9	...	...	...	..	...	...	...
				1911	27·5	0·1	...	42·0	19·9	38·0	...	...	...	...	...	...	...
				1912	39·6	4·1	0·2	38·9	20·1	36·7	...	...	...	...	...	...	...
				1913	34·6	1·6	0·7	44·9	18·6	31·2	...	...	...	...	..	...	...
Madras	...	1872 ...	...	1872	35·2	...	...	..	...	.	1867	27·2	5·0	5·1	20·1	18·5	51·3
				1873	36·7	..		...	...	.	1868	23·7	0·1	6·5	18·3	15·0	60·1
				1874	36·0	..	...		...		1869	17·5	5·0	0·3	17·9	..	76·8
				1875	65·6	..	...	...	...		1870	26·4	7·2	0·2	19·3	...	73·3
				1876	39·6	...	..	.	.		1871	28·9	3·8	1·8	19·0	14·5	60·9
				1877	(Famine year.)				.		...	...	...	..			..
				1878	17·1	...	.		...		...	...	..	...	.	.	..
				1879	31·7	..						...	...	...	...		..
				1880	37·1	.			...		...	...	. .	.	.	.	..
				1881	38·9	..	.	..	...	.	...	..	.	..	...	...	..
				1882	35·6	...	...	..	...	..	...	...	...	...	..	...	..
				1883	39·1	...	..	..	...	...	...	...	...	...	..	.	.
				1884	49·5	...	..	...	...	...	...	...	...	...	...	. .	...
				1885	36·8	.	...	...		...	...	...	...	...	..	...	...
				1886	36·2	...	..	...	..	..	...	...	...	...	...	...	...
				1887	39·8	...	...	...	..	...	...	...	...	..	..	..	...
				1888	37·4	..	.	...		...	...	...	...	...	..	...	...
				1889	42·0	...	...	...	...	...	...	..	..	...	...	..	...
				1890	42·4	...	...	...	...	...	.	...	...	..	...	...	...
				1891	52·6	...	...	...	...	...	...	...	...	...	...	...	...
				1892	46·0	...	...	...	...	...	...	...	...	...	...	...	...
				1893	41·1	...	. .	...	...	...	...	...	...	...	...	..	..
				1894	36·0	...	...	. .	...	...	...	...	...	...	..	...	...
				1895	37·7	..	..	..	...	..	...	...	...	...	...	...	...
				1896	37·8	...	..	. .	. .	...	...	...	...	..	...	..	...
				1897	35·5	...	...	...	...	..	...	...	...	...	...	...	...
				1898	44·8	...	...	...	...	...	...	...	...	...	...	...	...
				1899	38·5	...	...	..	...	...	...	...	...	...	...	...	...
				1900	46·3	..	...	...	...	...	...	...	...	...	...	...	...
				1901	55·0	..	. .	...	...	...	...	...	...	...	...	...	...
				1902	42·0	0·2	0·3	34·3	15·7	49·5	...	...	...	...	. .	...	...
				1903	37·7	0·1	0·04	31·9	13·9	54·1	...	...	...	...	...	...	...
				1904	37·9	0·3	0·1	26·1	16·8	56·7	...	...	...	...	...	...	..

No. XIII.—*Statement prescribed by the Government of India, Home Department (Sanitary), in Letter No. 10—326, dated 8th December 1894, communicated with G.O. Mis. No. 2654 L., dated 20th December 1894*—cont.

(Comparative table showing percentage of mortality to total mortality from year to year under each head of death causation.)

1	2		3		4					5		6				
Name of municipality.	Date of completion of works of		Average annual death-rate since the introduction of drainage system or water-supply.		Percentage of deaths to total mortality under each head of death causation.					Average annual death-rate for the five-year period preceding the introduction of drainage system or water-supply.		Percentage of deaths to total mortality under each head of death causation.				
	Drainage.	Water-supply.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	All other causes.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	All other causes.
Madras—cont.	...	1872	1905	59·0	12·3	1·1	18·7	18·6	49·3	...	...	...	...	...	...	...
			1906	46·9	2·3	2·5	23·1	19·0	53·1	...	...	...	...	...	...	...
			1907	40·8	3·3	0·2	25·8	15·6	55·1	...	...	...	...	...	...	...
			1908	44·1	5·1	0·1	27·8	13·5	53·2	...	...	...	...	...	...	...
			1909	38·3	0·1	0·4	29·9	13·6	56·0	...	...	...	...	...	...	...
			1910	40·3	0·7	0·6	25·4	18·0	55·3	...	...	...	...	...	...	...
			1911	42·3	3·3	2·2	18·8	22·4	53·3	...	...	...	...	...	...	...
			1912	39·2	1·8	0·5	19·7	24·5	53·5	...	...	...	...	...	...	...
			1913	40·3	0·1	0·2	18·7	25·2	55·8	...	...	...	...	...	...	...
Madura	...	1891	1894	32·6	13·5	0·9	15·8	11·7	58·1	1889	31·2	9·0	3·0	15·1	19·4	53·5
			1895	26·1	1·2	0·6	17·6	9·3	71·3	1890	32·7	3·0	11·9	18·0	14·2	52·9
			1896	23·2	0·4	0·6	22·3	10·6	66·1	1891	31·4	16·8	7·3	12·8	13·0	50·1
			1897	25·6	11·3	0·7	18·7	12·5	56·8	1892	29·3	0·8	9·9	16·0	9·9	63·4
			1898	25·1	4·5	0·5	13·7	15·4	65·9	1893	29·9	9·8	7·6	14·6	7·3	60·7
			1899	24·5	3·0	3·4	18·8	10·9	63·9	...	...	...	...	...	...	...
			1900	31·9	30·3	1·2	14·3	9·8	44·4	...	...	...	...	...	...	...
			1901	22·7	5·4	0·2	18·7	10·4	65·3	...	...	...	...	...	...	...
			1902	23·7	5·6	0·3	16·6	13·0	64·5	...	...	...	...	...	...	...
			1903	25·1	5·1	0·1	20·2	15·3	59·3	...	...	...	...	...	...	...
			1904	36·4	4·4	13·8	16·2	12·0	53·6	...	...	...	...	...	...	...
			1905	31·2	...	16·3	16·8	9·5	57·4	...	...	...	...	...	...	...
			1906	35·1	11·8	0·7	16·5	10·9	60·1	...	...	...	...	...	...	...
			1907	32·9	19·3	1·0	16·6	12·4	50·7	...	...	...	...	...	...	...
			1908	35·8	17·6	0·6	21·3	15·6	44·9	...	...	...	...	...	...	...
			1909	30·7	7·5	...	22·6	19·1	50·8	...	...	...	...	...	...	...
			1910	34·1	17·1	0·6	13·4	15·6	53·3	...	...	...	...	...	...	...
			1911	37·8	18·9	20·3	10·7	19·9	39·2	...	...	...	...	...	...	...
			1912	30·3	4·0	0·5	19·6	14·3	61·6	...	...	...	...	...	...	...
			1913	32·5	5·2	2·1	20·8	12·4	59·5	...	...	...	...	...	...	...

ellore	...	1908	1908	26·1	5·9	0·2	47·1	9·9	86·9	1903	27·6	7·0	0·2	27·1	5·1	60·0
			1909	25·9	...	3·1	45·5	2·9	48·5	1904	31·9	25·1	0·1	24·0	5·3	45·5
			1910	35·4	1·9	10·0	39·8	7·3	41·0	1905	36·6	17·9	2·2	23·8	8·2	47·9
			1911	32 7	9·9	0·5	35 9	6·1	47·6	1906	38·0	20·0	8·4	30·7	6·6	34·3
			1912	28 9	1·5	0·3	46·8	6·6	41·8	1907	37·4	19·2	0·9	33·4	11·0	35·5
			1913	32·4	6·4	...	16·1	5 9	71·6	...	...	...	...	...	...	...
Ootacamund	..	1900	1900	29·6	...	0·5	16·2	10·3	73·0	1895	23·5	...	...	39·0	9·0	52·0
			1901	23·0	...	...	26·2	9·3	64·5	1896	30·1	1·1	...	31·1	9·5	58·3
			1902	28·1	...	0·2	11·8	11·7	76·3	1897	30·1	1·1	..	28·9	11·7	58·3
			1903	37·9	...	...	5·8	10·6	83·6	1898	39·0	...	...	29·5	10·9	59.6
			1904	25·0	...	...	2·4	12·5	85·1	1899	26 1	...	0·8	15·3	11·2	73·2
			1905	31·8	...	...	4·4	12·0	83·6	...	...	...	...	...	..	...
			1906	35·4	0·2	0·5	2·6	14·1	82·6	...	...	...	...	...	...	..
			1907	29·6	0·2	..	3·8	15·2	80·6	...	...	..	...	...	...	..
			1908	31·3	0·3	...	5·7	10·8	83·2	...	...	..	...	...	...	...
			1909	35·8	0·2	...	3·3	11·3	85·2	...	...	...	...	...	...	...
			1910	28·4	...	1·5	2·7	15·3	80·5	..	...	...	...	...	...	...
			1911	26·2	...	0·6	2·4	12·0	85·0	...	...	...	...	...	.	...
			1912	29·7	...	0·9	1·1	11·8	86·2	...		...	...	...	..	...
			1913	29·1	...	...	2 6	12·0	85·4	..	...	...	...	...	...	...
Periyakulam	...	1907	...	...	...	...	...	...	...	1907	30·8	0·2	...	27·1	27·1	45·6
			. .	...	...	...	...	.	...	1908	40·8	30·3	...	15·5	15·3	38·9
			...	...	...	...	...	...	...	1909	27·4	0·8	...	27·1	20·5	51·6
				...	..	...	...	...	...	1910	32·0	0·2	...	24·0	21·9	53·9
			1912	29·4	0·2	...	17·6	29·0	53·2	1911	48·2	25·7	0·5	13·3	26·6	33·9
			1913	31·0	0 7	...	13·4	31 2	54·7	..	...	...	...	...	...	...
Tanjore	...	1895	1895	25·5	5 8	0·8	22·1	21·2	50·1	1890	28·2	11·1	6·3	22·6	26·0	40·0
			1896	27·0	3·7	2·0	23·5	25 4	45·4	1891	29·4	3·8	4·4	21·2	23·3	47·3
			1897	25·2	12·3	0·6	20·4	22·4	44·3	1892	29·2	12·7	0·9	19·1	28·4	38·9
			1898	25·5	16·3	0·3	13·1	18 2	52·1	1893	35·7	28·8	2·2	17·6	22·0	29·4
			1899	26·0	6·2	3·1	19·2	16·4	55·1	1894	26·9	15·2	0·9	16·5	26·3	41·1
			1900	27·0	4·8	2 5	22·2	19·8	50·7	...	...	...	...	...	...	...
			1901	26·0	5·2	0 1	18·2	25 7	50·8	...	..	...	...	...	...	...
			1902	29·2	3·5	0·6	9·7	18·0	68·2	...	...	...	...	...	...	...
			1903	29·1	1·7	0·1	10·0	14·0	74·2	...	...	...	...	...	...	...
			1904	30·3	2·9	2·2	12·3	15·0	67·6	...	...	...	...	.	...	...
			1905	30·3	0·1	10·3	18·4	12·4	63·8	...	...	...	...	...	...	...
			1906	33·6	2·5	5·6	15·5	13·6	62·8	...	...	...	...	...	...	...
			1907	35·1	4·7	1·9	15·4	13·3	64·7	..	..	..	...	...	...	...
			1908	33·3	4·3	1·2	12·2	14·4	67·9	..	..	...	...	...	...	...
			1909	34·1	1·7	1·1	11·8	15·4	70·0	...	...	...	...	...	...	...
			1910	39·9	5·1	14·2	8·7	14·6	57·4	...	...	..	...	...	...	...
			1911	32·6	8·3	1·9	6 6	17 8	65·4	...	...	...	...	...	..	...
			1912	32·4	2·2	0·2	7·9	21 6	68·1	...	...	...	...	...	..	...
			1913	32·5	3·7	1·2	8·5	18·2	68·4	...	...	...	..	...	...	...
Tirupati	...	1899	1899	31·5	9·4	...	33·4	7·1	50·1	1894	31·6	3·8	1·8	31·8	8·0	54·6
			1900	33·9	6·0	...	19·5	9·9	64·6	1895	29·0	1·2	...	39·7	10·9	48·2
			1901	30·8	3·1	...	22·7	11·1	63·1	1896	30·2	5·1	0·2	45·5	5·8	43·4
			1902	35·3	..	4·2	27·4	13·7	54·7	1897	34·2	2·7	0·4	36·5	10·0	50·4
			1903	30·5	...	0·2	20·9	20·1	58·8	1898	29·6	2·6	0·5	37·7	5·0	54·2
			1904	28·6	0·2	...	17·6	12·6	69·6	...	...	...	...	...	...	...
			1905	35·3	4·2	...	14·3	22·7	58·8	...	...	...	...	...	...	...
			1906	41·7	4·8	0·8	21·9	20·1	52·4	..	...	...	...	...	..	...

No. XIII—*Statement prescribed by the Government of India, Home Department (Sanitary), in Letter No.* 10—326, *dated 8th December* 1894, *communicated with G.O. Mis. No.* 2654 *L., dated 20th December* 1894—cont.

(Comparative table showing percentage of mortality to total mortality from year to year under each head of death causation.)

1	2		3		4					5		6				
Name of municipality.	Date of completion of works of		Average annual death-rate since the introduction of drainage system or water supply.		Percentage of deaths to total mortality under each head of death causation.					Average annual death-rate for the five-year period preceding the introduction of drainage system or water-supply		Percentage of deaths to total mortality under each head of death causation.				
	Drainage.	Water-supply.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	All other causes.	Years.	Death-rate.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	All other causes.
Tirupati—*cont.*	...	1899	1907	36·8	...	...	18·1	21·9	60·0	...	...	...	...	...	.	...
			1908	46·0	3·4	0·1	20·4	19·7	56·4	..	...	...	...	...	...	...
			1909	39·3	0·3	0·7	28·1	15·4	55·5	...	. .	...	..	...	..	...
			1910	34·6	1·5	..	33·6	8·0	56·9	...	...	...	...	...	...	...
			1911	32·2	0 2	0·4	36·5	9·1	58 8	...	...	..	...	...	...	...
			1912	37·2	13·2	...	25·4	10·0	51·4	...	..	...	...	...	...	...
			1913	27·3	2·4	0·2	33 3	10·8	53·3	...	...	...	...	...	...	...
Trichinopoly	...	1896	1896	30 4	19·2	0·8	22·4	11·9	45·7	1891	29·5	17·1	3·8	19·9	11·4	47·8
			1897	23·1	10·6	1·4	19·6	9 2	59·2	1892	25·6	13·0	5·9	26·6	13·7	40·8
			1898	30·4	24·1	1 4	14·1	6·7	53·7	1893	36·6	36 8	3·9	20·8	9·9	28·6
			1899	26·6	15·3	0·6	5·9	9·0	69·2	1894	24·4	12·6	1·6	29·4	14·0	42·4
			1900	30·3	7·7	0 6	10·5	7·9	73·3	1895	23·6	14·0	0·4	31·2	15·7	38 7
			1901	24·8	11·9	0·5	12·8	10·6	64·2	.	.	...	...	...	...	...
			1902	21·2	2·8	0·6	18·3	10·0	68·3	...	.	...	...	..	..	...
			1903	25·7	12·9	0·7	12·2	10·8	63·4	...	...	..	...	...	..	...
			1904	20·8	3·9	0·2	2·0	11·7	82·2	...	..	.	...	...	. .	...
			1905	23·5	...	20·7	4·7	9·7	64·9	...	..	...	...	...	...	...
			1906	21·8	1·1	2·9	10·5	15·4	70·1		...	...	...	...	..	...
			1907	23·1	1·7	0·1	15·6	14·4	68·2	...	...	...	...	...	...	...
			1908	29·7	7·7	0·3	10 7	13·9	67·4	...	...	..	...	...	...	...
			1909	29·7	4·2	0·2	13·7	14·4	67·5	..	...	...	...	...	...	...
			1910	30·2	0·8	2·4	10·9	15·7	70·2	...	...	...	...	..	..	...
			1911	31·1	6·2	9·2	11·9	13·1	59·6	.	...	...	...	...	...	...
			1912	28·9	4·5	3·1	11 4	14·4	66·6	...	...	...	...	. .	...	...
			1913	28·2	4·6	0 9	9·4	13·0	72·1	...	...	...	..	..	...	...
Vellore	...	1908	1908	31·3	6·6	1·1	4·3	26·1	61·9	1903	33·3	1·9	1·1	3·1	19·6	74·3
			1909	23·7	0·5	2·8	6·2	21·9	68·6	1904	44·8	16·0	0·8	1·3	18·7	63·2
			1910	25·6	..	2·0	9·8	19·2	69·0	1905	24·5	0·3	0·7	1·4	31·0	66·6
			1911	23·9	0·1	.	10 0	20·9	69·0	1906	41·2	7·0	25·5	0·9	14 5	42·1
			1912	32·3	2·6	..	6·4	19·0	72·0	1907	25·8	8·4	3·8	3·2	23·2	61·4
			1913	30 5	0·5	3 3	2·8	18·6	79·8	...	...	...	...	...	...	...

Vizagapatam	...	1902 ...	1903	29·5	...	..	19·7	24·7	55·6	1898	23·6	..	0·2	25·2	20·0	54·6
			1904	32·1	...	...	22·9	20·5	56·6	1899	31·6	...	0·1	26·8	24·0	49·1
			1905	29·8	0·4	..	20·1	18·9	60·6	1900	33·1	0·8	..	21·3	20·8	57·1
			1906	33·8	1·8	0·1	25·3	17·3	55·5	1901	25·8	0·1	...	20·3	18·9	59·9
			1907	25·5	1·4	0·4	32·6	13·1	52·5	1902	26·6	...	...	19·8	20·1	60·1
			1908	36·2	7·1	3·6	27·0	12·6	49·7	...	...	...	.	...	...	...
			1909	27·8	0·1	3·5	27·3	10·8	58·3	...	...	...	...	...	...	..
			1910	32·9	0·2	1·0	25·5	15·7	57·6	...	.	...	.	.	..	...
			1911	27·0	0·3	0·1	29·7	17·6	52·3	...	...	...	...	...	...	...
			1912	32·6	8·0	0·1	23·8	13·8	54·3	..	..	...	...	...	...	...
			1913	24·3	...	3·8	26·5	12·3	63·4		...	...	...	..	...	...

THE

TWENTY-FOURTH ANNUAL REPORT

OF THE

SANITARY ENGINEER TO THE GOVERNMENT OF MADRAS,

1913.

Period covered by this report.—On the question raised by the Sanitary Engineer in February 1913 whether, in conformity with the decision of Government in their Order No. 2285 M., dated 2nd December 1912, that his annual programmes of investigation and design of Major Sanitary Schemes should relate to the official year and not to the calendar year as in the past, the annual sanitation reports should not also cover the same period, it was decided by Government in their Order No. 944 L., dated 4th June 1913, in favour of the calendar year so far as these reports alone were concerned. The last report covered the official year, having been prepared and submitted prior to the decision. The work done from the 1st January to the 31st March 1913 having thus been already dealt with in the last report, the present report will practically relate to the period between the 1st April and 31st December 1913. This want of harmony between the respective periods covered by the programme and the sanitation report is an inconvenience but, under the existing rules, an unavoidable one.

Programme of work for the year.—According to the latest sanctioned programme for the year 1913–14 (G.O. No. 1285 M., dated 5th July 1913) the Sanitary Engineer's work for the year comprised (*A*) Preparation of detailed plans and estimates for the 17 major schemes under *A* below and (*B*) Investigation of the 28 major schemes under *B* :—

(A)—Schemes to be designed.

Name of town.	Nature of scheme.
(1) Madura	Water-works improvements.
(2) Kumbakōnam	Water-supply.
(3) Anantapur	Do.
(4) Adōni	Water-works improvements
(5) Vizagapatam	Do.
(6) Guntūr	Do.
(7) Tanjore	Do.
(8) Palni	Water-supply.
(9) Ootacamund...	Drainage improvements.
(10) Cuddalore	Water-supply.
(11) Bellary	Do.
(12) Kumbakōnam	Drainage.
(13) Adōni	Do.
(14) Salem	Do.
(15) Trichinopoly	Do.
(16) Coimbatore	Water-supply.
(17) Tinnevelly, Palamcottah and Tuticorin.	Joint water-supply.

(B)—Schemes to be investigated.

Name of town.	Nature of scheme.
(1) Coimbatore	Water-supply.
(2) Kumbakōnam	Drainage.
(3) Trichinopoly	Water-works improvements.
(4) Srīrangam	Water-supply.
(5) Devakottai	Do.
(6) Sivaganga...	Do.
(7) Tiruvannāmalai	Do.
(8) Rāmnād	Do.
(9) Cochin	Do.
(10) Mangalore	Do.
(11) Rajahmundry	Do.
(12) Calicut	Do.
(13) Salem	Drainage.
(14) Srīrangam	Do.
(15) Parlākimedi	Water-supply.
(16) Periyakulam	Drainage.
(17) Tiruvallūr (Union)...	Water-supply.
(18) Ongole	Do.
(19) Saidapet (Union)	Drainage.
(20) Tinnevelly, Palamcottah and Tuticorin.	Joint water-supply.
(21) Nandyal	Water-supply.
(22) Dhone (Union)	Do.
(23) Tindivanam (Union)	Do.
(24) Valavanur (do.)	Do.
(25) Walajabad (do.)	Do.
(26) Gudivada (do.)	Do.
(27) Peddapuram (do.)	Do.
(28) Gudalur, Cumbum, etc. (Unions) ...	Do.

N B.—Towns in the above list, not marked *Unions* are Municipalities.

WORK DONE ON THE PROGRAMME.

A.—Designing.

(1) *Madura water-works improvements.*—The detailed plans and estimates amounting to 19 lakhs submitted in 1912 for sanction, for abandoning the existing head works and putting in an entirely new gallery and pumping installation at a site called Kochadi 2 miles higher up the river than the existing site and containing a sufficiently extensive and deep water bearing stratum, were remitted back to the Sanitary Engineer during the year with instructions to submit revised proposals for an experimental pumping scheme comprising an infiltration gallery and collecting well with a temporary pumping plant at the Kochadi site, with a view to supplement the supply from the existing system and thus to enable a prolonged and complete test of the new source being conducted before deciding on the abandonment of the existing pumping plant. Plans and estimates were accordingly drawn up afresh and submitted for a supplementary and experimental pumping scheme estimated to cost Rs. 5,68,000 for installation at the beginning, and 10 lakhs inclusive of the additional works and distributing pipes which will follow if the experimental part of the scheme proves a success. These were approved by the Sanitary Board in Proceedings No. 707-S., dated 5th November 1913, and since sanctioned by Government (G.O. No. 264 W., dated 4th February 1914).

(2) *Kumbakōnam water-supply.*—Proposals for additional sub-artesian water works at a site to the south-west of Kumbheswaraswami Temple and estimated to cost Rs. 22,500 for supplementing the existing supply from the pumping installation at the central town borehole lately opened in front of the Someswaraswami Temple, were under scrutiny by the Sanitary Engineer at the end of the year. Plans and estimates have since been submitted in this office No. 176-G., dated 3rd March 1914, to the Sanitary Board through the Sanitary Commissioner.

(3) *Anantapur water-supply.*—Plans and estimates amounting to 2 lakhs (1·74 lakhs as drawn up by the Deputy Sanitary Engineer during the year) for a pumping scheme of supply from a coarse sand layer in the deep bed of the Pandameru river 2½ miles above the town, for benefiting an ultimate population of 10,000 (now 8,457) at a 15-gallon rate, drawn up by the Deputy Sanitary Engineer, Northern and Central Circles, were forwarded with this office No. 243-G., dated 30th March 1914, to the Sanitary Board through the Sanitary Commissioner.

(4) *Adōni water-works improvements.*—The Sanitary Engineer's scrutiny of the proposals drawn up by the Assistant Sanitary Engineer, Central Circle, and estimated to cost Rs. 34,000 for augmenting the existing town supply by increasing the catchment area of the storage tank had almost been completed at the end of the year and the proposals have since been forwarded with this office No. 175-G., dated 2nd March 1914, to the Sanitary Board through the Sanitary Commissioner.

(5) *Vizagapatam water-works improvements.*—Plans and estimates aggregating 1 lakh for proposals to supplement the existing town supply by means of additional galleries, were drawn up by the Assistant Sanitary Engineer, Northern Circle, during the year in pursuance of order No. 440 M., dated 3rd March 1913, and have since been forwarded to the Sanitary Board through the Sanitary Commissioner (with this office No. 232-G., dated 27th March 1914).

(6) *Guntūr water-works improvements.*—Investigation was in progress during the year. Proposals estimated to cost Rs. 1,35,000 as drawn up by the Assistant Sanitary Engineer, Northern Circle, and Rs. 1,09,120 as revised by the Sanitary Engineer, for a scheme of supply supplementing the existing insufficient supply, and comprising the construction of a gallery 4,000 feet long from a new square deep well excavated near the existing galleries, with pipe conduit, etc., have been forwarded to the Sanitary Board through the Sanitary Commissioner with this office No. 241-G., dated 30th March 1914.

(7) *Tanjore water-works improvements.*—Investigation of proposals to improve the existing supply by removing the head works to a new site, was completed and plans and estimates were approaching completion at the end of the year.

(8) *Palni water-supply.*—Plans and estimates were at the end of the year in an advanced stage of preparation with the Deputy Sanitary Engineer, Southern and Western Circles.

(9) *Ootacamund drainage improvements.*—Detailed plans and estimates amounting to Rs. 2,60,000 for the provision of a new cast-iron main sewer were drawn up by the Deputy Sanitary Engineer during the year. They have since been scrutinized by the Sanitary Engineer and forwarded with No. 239-G., dated 30th March 1914.

(10) *Cuddalore water-supply.*—Plans and estimates aggregating Rs. 7,66,000 for a pumping scheme for supplying an ultimate population of 70,000 at the rate of 15 gallons daily, from the river Ponniar by means of a pumping main serving also as a distributary main and a masonry service reservoir on Capper Hill, 3½ miles from the head works site, were drawn up by the Deputy Sanitary Engineer, Southern and Western Circles, and forwarded in this office No. 204-G., dated 14th March 1914, to the Sanitary Board through the Sanitary Commissioner.

(11) *Bellary water-supply.*—Plans and estimates aggregating 11 lakhs were drawn up by the Deputy Sanitary Engineer, Northern and Central Circles, during the year and submitted by him at the commencement of 1914 to the Sanitary Engineer with whom they are now under scrutiny.

(12) *Kumbakōnam drainage.*—The preparation of plans and estimates for this scheme was taken up by the Assistant Sanitary Engineer, Southern Circle, about the end of the year.

(13) *Adōni drainage.*—Plans and estimates aggregating about 2¼ lakhs are being drawn up.

(14) *Salem drainage.*—Plans and estimates aggregating about 4 lakhs are expected to be completed in 1914–15.

(15) *Trichinopoly drainage.*—A revised scheme of open drains with intercepting sewers and sewage disposal arrangements estimated to cost 10¼ lakhs, for the city of Trichinopoly, and submitted from this office early in 1912 was until late in 1913 under discussion with the Chief Engineer, Sanitary Board and Government relative to the settlement of the question whether to prefer an open or underground system of drains for the city. A partial decision in favour of the former was arrived at and the plans and estimates have lately been referred back by the Chief Engineer to this office for resubmission with fully worked out hydraulic calculations determining the sizes of the drains, suitable designs for pumping pits and night-soil shoots, and a further elucidation of points connected with drain junctions, provision of rates, etc.

(16) *Coimbatore water-supply.*—Preliminary investigation had been completed about the end of 1912 and a report on schemes of supply for the town from four alternative sources, viz. (*a*) the river Sirumani, (*b*) sub-artesian water, (*c*) the river Bhavani and (*d*) the Singanallur tank, was submitted to Government with this office No. 570-G., dated 31st October 1912. In that report it was recommended that preferential consideration might be given to the scheme marked (*a*) above which comprised a combined scheme of supply of drinking water as well as hydro-electric power for town lighting, electric power for factories, etc. Orders on this report were awaited at the end of the year.

(17) *Tinnevelly-Palamcottah and Tuticorin joint water-supply.*—In connection with the pumping scheme of joint water-supply for the three towns from the Tambraparni estimated to cost 31½ lakhs, and submitted in 1912, further gaugings of the surface flow in the Tambraparni and in the irrigation channels Melakkal and Kilakkal during the hot season were, as ordered by the Chief Engineer, carried out and a report forwarded to him during the year. The joint scheme was in the meantime ordered to be abandoned (G.O. No. 1862 M., dated 30th September 1913) and the cost of an independent scheme of supply for Tuticorin alone from the same source was, as ordered, worked out at 15 lakhs if the pipe delivery main for the first 13 miles be of steel, and 18½ lakhs if the same be of cast-iron, and furnished to Government by the end of the year.

B.—INVESTIGATION.

(1) *Coimbatore water-supply.*—*Vide* item (16) under *A* above.

(2) *Kumbakōnam drainage.*—Investigation completed on lines of existing streets and lanes, and designing work taken up by the Assistant Sanitary Engineer, Southern Circle—*vide* item 12 under *A* above.

(3) *Trichinopoly water-works Improvements.*—The Sanitary Engineer's proposal to continue the experiments on the well sunk at Kambarasampettai for augmenting the existing town supply and to put down further deep borings in the neighbourhood was sanctioned during the year (G.O. No. 853 M., dated 28th April 1913) and is being carried out.

(4) *Srīrangam water-supply.*—As it is intended to have a combined scheme of supply for both Srīrangam and Trichinopoly Municipalities, the experiments referred to in (3) above will also settle the question of head-works for Srīrangam.

(5 & 6) *Devakottai and Sivaganga water-supplies.*—Out-door work completed and plans and estimates will be drawn up in 1914.

(7) *Tiruvannāmalai water-supply.*—During the year the Sanitary Engineer submitted to Government a report formulating proposals estimated to cost Rs. 1,500 for preliminary borings with a view to discover the most feasible and advantageous position for an infiltration gallery; and the proposal was sanctioned by Government in G.O. No. 1795 M., Mis., dated 18th September 1913. Investigation was in progress at the end of the year.

(8) *Rāmnād water-supply.*—Investigation was almost completed at the end of the year. The Government was kept informed of the progress of the investigation by preliminary reports.

(9) *Cochin water-supply.*—Boring operations commenced at about the end of the year under the supervision of a boring superintendent and the work is in progress. On the 12th April the boring had reached a depth of 146 feet.

(10) *Mangalore water-supply.*—It being found on further investigation that the Maroli valley scheme for Mangalore would prove prohibitively costly (7 lakhs), a modification of the scheme so as to bring its cost within the limits of the Municipal Council's resources, say, roughly, to 4½ lakhs, by tapping the sub-soil water in the valley, was proposed by the Deputy Sanitary Engineer, Southern and Western Circles, for investigation. The proposal has been approved and a sum of Rs. 2,300 for the investigation sanctioned by Government (G.O. No. 153 M., dated 24th January 1914).

(11) *Rajahmundry water-supply.*—Investigation ordered in G.Os. No. 1594 M., dated 28th August 1912, and No. 312 M., dated 15th February 1913, of a pumping scheme of supply from a site near the right flood bank of the Gōdāvari on the Kovvūr side of the river, and experiments for testing the yield from a well in the Municipal Chairman's garden were in progress. A number of deep borings have also been put down east of the town and between the railway and the river. These borings which reached a depth of over 100 feet disclosed an artesian source of supply which will probably prove the final source of supply to this important town.

(12) *Calicut water-supply.*—The investigation of the Elathur river source, sanctioned in G.Os. No. 907 M., Mis., dated 15th May 1912, and No. 2305 M., Mis., dated 19th November 1913, was in progress at the end of the year.

(13) *Salem drainage.*—Preliminary investigation completed. Plans and estimates will be drawn up by the Deputy Sanitary Engineer, Southern and Western Circles, and submitted in 1914–15.

(14) *Srīrangam drainage.*—The Municipal Council is still going on with the work of opening up conservancy lanes, on the completion of which further investigation will be carried out.

(15) *Parlakimedi water-supply and drainage.*—Investigation of a scheme of water-supply and a scheme of drainage for the town were in progress at the end of the year.

(16) *Periyakulam drainage.*—Investigation of a scheme of drainage for the whole town was in progress at the end of the year.

(17) *Tiruvallūr water-supply.*—Boring investigation at Periyakuppam was abandoned and fresh proposals are being considered by the Local Board.

(18) *Ongole water-supply.*—An estimate of Rs. 4,000 for further investigation of possible sources of supply for Ongole, ordered in G.O. No. 785 M., dated 17th April 1913, was drawn up before the end of the year and has since been sanctioned by Government in G.O. No. 403 M., Mis., dated 27th February 1914. Investigation will be carried out in 1914.

(19) *Saidapet drainage.*—Conservancy lanes have not yet been opened up by the District Board and until this is done detailed plans and esti ates cannot be drawn up.

Approximate estimates called for by the Sanitary Board for alternative schemes for open drains and closed sewers respectively with a sewage farm at Elliott's Beach were under preparation at the end of the year and have since been submitted with this office No. 191-G., dated 9th March 1914, to the Sanitary Board.

(20) *Tinnevelly-Palamcottah-Tuticorin joint water-supply.*—*Vide* item 17 under *A* above.

(21) *Nandyal water-supply.*—The investigation of a scheme of water-supply for this town will be completed in 1914–15.

(22) *Dhone water-supply.*—Investigation of a source of supply for the town was ordered in G.O. No. 1171 L., Mis., dated 14th July 1913, and was going on during the year.

(23) *Tindivanam water-supply.*—A scheme of water-supply was under preliminary investigation during the year and a report has since been submitted to the Chief Engineer in this office No. 15-G., dated 6th January 1914.

(24) *Valavanur water-supply.*—A preliminary report was submitted to the Chief Engineer by the end of the year —*vide* this office No. 962-G., dated 22nd December 1913.

(25) *Walajabad water-supply.*—The investigation of a scheme of supply for the town was ordered to be deferred (G.O. No. 1611 L., dated 2nd October 1913).

(26) *Gudivada water-supply.*—In this office No. 654-G., dated 27th August 1913, a proposal was submitted for orders for investigating at a cost of Rs. 2,100 a pumping scheme of supply from a sandy sub-soil stratum running across the town, the scheme itself being roughly estimated to cost Rs. 70,000. The proposal has been forwarded by the Sanitary Board with its approval to Government in Proceedings No. 655-S., dated 16th October 1913, and orders of Government are awaited.

(27) *Peddapuram water-supply.*—Investigation (at a cost of Rs. 2,500) of the possibilities of obtaining a sub-soil or artesian spring supply for the town was sanctioned in G.O.No. 1340 L., dated 18th August 1913, and was in progress during the latter part of the year.

(28) *Gudalur, Cumbum, Uttamapalayam and Chinnamanur water-supply (Madura district).*—The investigation was in progress.

Sanitary works under execution by the Public Works Department.

Berhampur water-works.	Negapatam water-works.
Vizianagram do.	Dindigul water-works improvements.
Masulipatam do.	Kodaikānal water-works.
Vellore drainage.	Madura water-works improvements.
Ellore water-works.	Madura drainage.
Chidambaram water-works.	

Sanitary works under execution by the Sanitary Engineer.

		RS.
(1)	Experimental well relating to the investigation of proposals for supplementing *Trichinopoly water-supply*	8,750
(2)	Rajahmundry water-supply investigation—Experimental well at Kovvūr	6,600
(3)	Kurnool water-works improvements	33,100
(4)	Cochin boring	33,000
(5)	Experimental filters at Guindy	36,124
(6)	Cuddapah water-works improvements	47,935

Water-supply and drainage systems in operation at the end of the year.

Water-works.

Adōni.	Gudiyāttam.	Salem.
Berhampur.	Guntūr	Tanjore.
Bezwada.	Kodaikānal.	Tirupati.
Cocanada.	Kurnool.	Trichinopoly.
Conjeeveram.	Madura.	Vellore.
Coonoor.	Nellore.	Vizagapatam.
Cuddapah.	Ootacamund.	Vizianagram.
Dindigul.	Periyakulam.	Total 23

Drainage work.

Ootacamund—Total 1.

These works were inspected by the Sanitary Engineer or his assistants and also by the boiler inspection staff in the case of pumping schemes, and Municipal Councils were assisted with advice on upkeep and repairs.

Pumping at water-works.—The following statement gives particulars about the pumping plant on water-works in operation during the year 1912–13.

Statement of particulars about the pumping plant on water-works in operation during the official year 1912–13.

Stations.	Quantity pumped during the year.	Average lift.	Fuel consumed	Description of fuel.	Fuel consumed per 1,000 gallons.	Cost per million gallons raised 1 foot high.	Pump horse-power	Fuel consumed per pump horse-power.	Description of the engines worked.
1	2	3	4	5	6	7	8	9	10
	GALLS.	FT.	TONS.		LBS.	RS. A. P.		LB.	
Bezwada	149,320,014	70·88	21·36	Residue oil ..	0·82	0 5 9·95	53,454	0·89	Diesel oil-engines.
Cocanada	140,160,262	48·37	470·76	Coal ..	7·77	0 12 11·6	34,240	30·79	Compound surface condensing engines.
Conjeeveram	216,959,736	41·33	232·77	Do.	8·37 steam-engine. 0·662 gas-engine	1 1 0·98	46,298	39·99 steam-engine. 3·27 gas-engine.	Steam-engine and Crossley gas-engine.
Gudiyāttam	21,358,817	47·11	4·33	Liquid fuel .	0·45	1 6 8·46	5,132	1·89	Hornsby Akroyd oil-engines.
Kurnool	111,388,075	45·5	252·47	Wood and liquid fuel.	14·83 steam-engine. 0·44 Diesel oil-engine.	1 6 11·95	25,596	64·67 steam-engine. 1·92 oil-engine.	Steam and Diesel oil-engines.
Madura	518,453,286	38·44	529·89	Coal ..	4·56	0 14 2·1	100,668	23·56	Triple expansion surface condensing engines.
Nellore	102,775,050	67·00	21·53	Kerosine oil	0·469	0 13 3	34,777	1·38	Hornsby Akroyd oil-engines.
Tanjore	312,096,812	80·09	640·40	Coal ..	4·59	0 13 3	126,242	22·72	Triple expansion surface condensing engines.
Trichinopoly main pumping station .	175,445,942	95·5	1249·74	Do. ..	4·14	0 11 10	325,783	17·18	Do. do.
Trichinopoly sub-pumping station ..	71,601,381	70·19	295·53	Wood ..	9·24	1 1 11·6	25,382	25·68	Do. do.

The following is a statement showing the minor sanitary works dealt with by the Sanitary Engineer from April to December 1913 *or for a period of* 9 *months*:—

—	Medical institutions.		Latrines		Slaughter houses		Markets.		Wells.		Water-supply.		Drainage.		Miscellaneous.	
	Number	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
		RS.		RS.		RS		RS.		RS.		RS.		RS.		RS.
Estimates below Rs. 2,500.	41	61,240	43	44,144	4	3,210	9	12,660	116	1,27,326	31	33,635	4	7,125	44	60,590
„ „ Rs. 2,500.	51	3.18,252	4	14,880			4	16,047	6	22,321	28	1,28,069	7	29,400	15	84,866
„ „ Rs. 10,000.	30	7 96,550	1	11 845	.				1	12,750	4	64,400	2	56,500	18	5,15,804
Total	122	11 76,042	48	70,869	4	3,210	13	29,307	123	1,62,397	63	2,26,104	13	13,025	77	6,61,260

Grand total for 9 months—463 works amounting to Rs. 24,22,214.
The grand total for 12 months in 1912–13 was 514 works amounting to Rs. 17,50,754.

Indents.—Indents on the Director-General of Stores were prepared and forwarded during the year for—

Rural water-supply improvements—Semi-rotary pumps and fitter's tools.

Extension of the Vizagapatam water-supply to Waltair.—Pipes, engines and pumps.

Madura drainage.—Iron and stoneware materials connected with the drainage system.

Cochin water-supply.—Steel tubes.

Rural water-supply improvements.—Double barrelled kite-motion pumps, and galvanized iron tanks.

Bezwada Municipality.—Steam road roller.

Anantapur Municipality.—Hornsby oil-engine and Rees roturbo centrifugal pump.

Type-designs.—Type-designs were drawn up and submitted during the year for the following :—

(1) A combined latrine of six seats.
(2) Open well fitted with semi-rotary pump.
(3) Open deep well fitted with pumps and wrought iron tank with taps.
(4) Revised type-design for a combined latrine of six seats.
(5) Pail depot.
(6) Deep well (when maximum water level is very low) fitted with pump, wrought iron tank and taps.
(7) House connections on water-supply systems with ¾′ meter.
(8) Conservancy depot.
(9) Air valve pit
(10) Slaughter-house.

Rural water-supply improvements.—During the year the question of improving the rural water-supply systems in those areas which suffered from yearly epidemics of cholera was under the special consideration of Government. It was decided to carry out experiments on a large scale in the matter of protecting village wells and fitting them with semi-rotary pumps or with deep well pumps for the improvement and conservation of the wells. An indent on the Director-General of Stores was sent for the necessary pumps and other articles and part of the supply was received during the year. Government decided that the experiment of fitting wells with pumps should first be tried in the districts of Chingleput, Nellore, Chittoor, North Arcot, South Arcot and Salem and a grant of Rs. 15,000 to each of these districts was made. Towards the end of the year proposals were received from the Presidents of the District Boards of the districts mentioned above and indents were received for pumps and fittings. The experiment has not yet been carried out sufficiently to expect any pronouncement to be made on its probable success. But it is anticipated that the fitting of wells with pumps will become in due course popular and increased interest will be shown by local bodies in

protecting village wells from contamination which occurs under the present system whereby people draw water with buckets from the wells.

In connection with the outbreak of cholera in the Anantapur district, the Government decided that it was necessary to arrange for the improvement of the village water-supply in this district so that the wells would be improved and protected in the earliest possible time.

To enable this to be done the Sanitary Engineer advised that one of his assistants Mr. Gnanaprakasam Pillai should be placed on special duty under his orders and that the attention of this Assistant Sanitary Engineer should be directed entirely to the work contemplated by Government. This proposal was approved at the end of the year and the work of protecting wells in the Dharmavaram taluk in the Anantapur district is now in progress.

Madras Sewage Farm.—During the year, the question of the continuance of the Madras Sewage Farm at Tondiarpet received much attention and, at the request of the Corporation, Government in G.O No. 825 M., dated 23rd April 1913, were pleased to appoint a Committee with the Sanitary Engineer as Chairman to go into the whole question of the existing sewage farm and to propose means for its improvement. The members of the Committee were Dr. Maitland Gibson, Director, the King Institute, Guindy, Mr. H. C. Sampson, Acting Principal, Agricultural College, Coimbatore, and Mr. W. H. Harrison, Agricultural Chemist, College of Agriculture, Coimbatore The Committee completed its labours before the end of the year and the report and conclusions of the Committee were forwarded in March 1914 to the Corporation and Government.

Boiler inspection.—During most of the year the staff of Boiler Inspection was short by one Inspector. An additional Inspector was appointed and joined duty in the early part of 1914. The question of the appointment of a Commission to do the work which is now being done by the Sanitary Engineer in connection with Boiler inspection was under consideration at the end of the year and the views of selected owners of boilers were invited.

Sanitary Engineer's staff.—The increase in the staff of the Sanitary Engineer referred to in the last annual report was sanctioned during the year in May 1913. A second Deputy Sanitary Engineer, Mr. E. W. Lace, was obtained from the Public Works Department. Mr. S. D. Shroff was appointed an Assistant Sanitary Engineer and he joined duty on 21st May 1913, *vice* Mr. Harvey who, as reported in last year's report, was transferred to Delhi Imperial Works.

Steps were taken to recruit the necessary draftsmen sanctioned under the scheme. The absence of qualified men available in the Presidency was much felt and a number of posts had to be filled up by unqualified men. The advantage of the increased staff was only apparent for practically the last six months of the year and its full benefit will only be realised at the end of 1914.

The staff now consists of two deputies and four assistants and, in addition, a Personal Assistant to the Sanitary Engineer has been sanctioned. Owing to illness and other reasons the staff was never at its full strength during the year. While the increase in the staff and the division of work of investigation and designing between the Deputy Sanitary Engineers has relieved the Sanitary Engineer from the excessive amount of touring which was formerly necessary, the office work has owing to the increased staff and for other reasons actually increased thus pointing to the desirability of decentralising work as much as possible. The local bodies during the year evinced an increased interest in the formulating of proposals for sanitary works. As most of these required sanction or approval of the Sanitary Engineer the increased number received during the year added greatly to the work in the Sanitary Engineer's office especially when it is remembered that the local bodies still omitted to carry out the requirements in G.O. No. 732 L., dated 26th May 1911, in which Government laid down that all proposals which were intended for execution during any year should be submitted to the Sanitary Engineer before the end of September of that year. As a rule the majority of the proposals are received in the last four months of the calendar year and every local body apparently considers that its work is most urgent and should be given preference over proposals from other bodies. A measure of relief from this

increased work has been obtained by the increase of powers to Local Boards which can now sanction estimates up to Rs. 2,500 provided the proposals are based on type designs. In the case of municipalities these bodies can sanction proposals on a similar condition up to a thousand rupees. The full effect of this relief has not yet been felt, but at the end of 1914 it will be possible to say what further measures are required in order to permit of acceleration in the preparation, scrutiny and sanctioning of sanitary works.

OFFICE OF SANITARY ENGINEER
TO GOVERNMENT, CHEPAUK,
MADRAS, 27*th April* 1914.

W. HUTTON,
Superintending Engineer,
Sanitary Engineer to Government.

Government of Madras.

LOCAL AND MUNICIPAL DEPARTMENT.

Recd.	1914.	*Enclosures*	
Regd.		*Spare copies*	

G.O. No. 1683 L., 29th September 1914.

Sanitation.

Reviewing the report on — for 1913.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

Read—the following paper:—

Proceedings of the Sanitary Board (The 18th Annual Report of the Sanitary Board—1913), No. 703-S., dated 6th August 1914.

Read—the following papers:—

(i)

Letter—from W. Hutton, Esq., A.M.I.C.E., Superintending Engineer, Sanitary Engineer to Government.
To—the Secretary to Government, Local and Municipal Department.
Dated—Madras, the 12th May 1914.
No.—335-G.

I have the honour to forward herewith for reference six copies, in advance of the 24th Annual report of the Sanitary Engineer to Government, Madras, for the year 1913 which under rule 23 of the Sanitary Board Rules annexed to G.O. No. 1081 L., dated 2nd September 1903, is being submitted by me to the Sanitary Board.

(ii)

Letter from the Sanitary Engineer to Government, No. 350-G , dated 18th May 1914.

(iii)

Letter—from Major W. A. Justice, M.B., C.M., D.P.H., I.M.S., Sanitary Commissioner for Madras.
To—the Secretary to Government, Local and Municipal Department (through the Secretary, Sanitary Board, Chepauk, Madras).
Dated—Madras, the 4th August 1914.
No.—D. 2033-S.

I have the honour to forward herewith my annual Sanitary Report for the year 1913. I very much regret the delay in the submission of the report. Much of the delay is due to the local bodies taking a long time to furnish complete particulars necessary to compile the several statements that are to be appended to the report (G.O. Mis. No. 733 L., dated 17th April 1914). In spite of the orders issued in paragraph 1 of G.O. No. 1936 L., dated 11th November 1913, many of the district and municipal returns were received in this office long after they were due. In some instances the figures shown in the annual returns of local bodies did not tally with the totals of the monthly returns submitted by them. The reconciliation of these figures necessarily takes some considerable time attended with much unnecessary correspondence. Unless local bodies furnish complete and correct figures by the date on which they are due, it is not possible to submit the report to Government so as to reach them on the prescribed date.

Resolution—No. 703-S., dated 6th August 1914.

With reference to rule 23 of the rules relating to the constitution and functions of the Sanitary Board issued with G.O. No. 1081 L., dated 2nd September 1903, the reports read above will be submitted to Government with the report of the Board itself as hereunder. The matter has been delayed by the non-receipt of the Sanitary Commissioner's report, which was not received until so late as 6th August 1914.

The Sanitary Engineer's previous report having been submitted for the official year 1912–13 instead of for the calendar year 1912, his present one covers only the period 1st April 1913 to 31st December 1913.

2. The constitution of the Board continued to be the same but its powers of final approval have been raised under G.O. No. 1000 L., dated 14th June 1913, in respect of the maximum limit of the estimated cost of schemes, from Rs. 10,000 to Rs. 20,000.

3. The Hon'ble Mr. C. A. Smith was President of the Board from January to October 1913, the Presidentship in the interim having been held by the Hon'ble Mr. S. D. Pears. There was no other change in the personnel.

An addition of one typist and one attender has been made to the Board's office establishment under the orders of Government conveyed in G.O. No. 1515 L., dated 20th September 1913.

4. During the year, the undermentioned designs were approved by the Board as types and circulated with schedules and specifications for adoption by local bodies :—

(1) Out-patient dispensary for women and children (type design No. 140).
(2) Sub-Assistant Surgeon's quarters (type design No. 141).
(3) Phthisis ward of twelve beds (type design No. 142).
(4) Details of shutters in Phthisis ward (type design No. 143).
(5) Open well with semi-rotary pumps (type design No. 144).
(6) Closed deep well with pump and iron tank (or masonry reservoir) with taps (type design No. 145).
(7) Quarters for a Civil Apothecary or Assistant Surgeon (type design No. 146).
(8) Epidemic disease shed (type design No. 147).
(9) Out-patient dispensary for small towns (type design No. 148).
(10) Latrine for this dispensary (type design No. 148A).
(11) Store and kitchen for this dispensary (type design No. 148B).

5. The more important of the sanitary schemes which were approved by the Board during the year were the following:—

		RS.
(1)	Madura water-works improvements	5,68,800
(2)	Erode water-supply	3,99,000
(3)	Negapatam drainage	3,30,000
(4)	Tirupati water-supply	2,55,000
(5)	Chingleput water-supply	2,00,000
(6)	Combined hospital for Tinnevelly and Palamcottah	1,87,200
(7)	Hospital building at Bellary	1,63,000
(8)	Narasaraopet water-supply	1,31,000
(9)	Coonoor water-supply	93,170
(10)	General hospital for women and children at Dindigul	48,210
(11)	Compound wall for the municipal burial ground at Vellore.	46,000
(12)	Hospital building at Negapatam (revised estimate)	43,170
(13)	Relieving congestion in the bazaar at Ootacamund	27,000
(14)	Improvements to the municipal hospital at Srirangam	26,898
(15)	Diversion of drainage at Peddapur and improvements to its water-supply	26,600
(16)	Hospital buildings at Periyakulam	23,745
(17)	Out-patient dispensary and store-room at Conjeeveram	14,500
(18)	Dispensary building at Kosigi	13,000
(19)	Out-patient dispensary at Uttaramerur	12,800
(20)	Improvements to the fresh water tanks at Pattaraikulam and Muthupet	12,600
(21)	Dispensary building at Nagalapuram	12,320
(22)	Out-patient dispensary at Tiruchendur	11,900
(23)	Hospital building at Yercaud	11,300
(24)	Out-patient dispensary at Kulasekharapatnam	11,200

6. The total number of schemes approved by the Board during the year was 96 estimated to cost Rs. 32,12,712 in the aggregate. Of these, 42 schemes estimated to cost Rs. 27,67,426 related to Municipalities, and 54, estimated to cost Rs. 4,45,286, related to Local Boards.

7. Seventy-three of these schemes, estimated to cost Rs. 5,50,989 in the aggregate, were within the Board's powers of final approval, and of these, the following seven works costing Rs. 94,204 are reported to have been completely executed before the close of the year 1913 :—

	RS.
(1) Sub-artesian water-supply, Kumbakōnam	8,100
(2) Lady medical officers' quarters at the Gosha hospital, Vizagapatam	9,200
(3) Construction of drains at Dindigul	4,700
(4) Relieving congestion in the union of Mettupālaiyam	6,652
(5) Water-supply, Vizagapatam	5,182
(6) Relieving congestion in the union of Gobichettipālaiyam	17,200
(7) Hospital buildings at Negapatam	43,170

8. Thirty-one works estimated to cost Rs. 2,14,885 were under execution at the close of the year, namely :—

	RS.
(1) Rock Fort water-supply at Trichinopoly	7,169
(2) Salt fish godown at Dindigul	2,600
(3) Out-patient dispensary at Badvel	10,000
(4) Scavengers' huts at Chidambaram	9,100
(5) Dispensary building at Tirupporur	9,600
(6) Out-patient dispensary at Melapālaiyam	10,000
(7) General female ward, Kotagiri	8,300
(8) Improvements to a drinking-water pond at Kandanakunthi.	4,080
(9) Hospital main ward at Mettupālaiyam	9,200
(10) Drains from Bandara road to the fish pond at Vizagapatam.	5,480
(11) Improvements to the drinking-water tank at Sollapuram	2,900
(12) „ „ at Nallabariammapuram	3,450
(13) Isolation ward at Alur	6,200
(14) Out-patient dispensary at Vempalli	10,000
(15) Vaccine depot at Tiruppattūr	3,700
(16) Compound wall at the weekly market at Kallur	3,730
(17) Drains in Konarajapuram	4,300
(18) Out-patient dispensary at Owk	7,200
(19) „ „ at Cuddapah	5,000
(20) Bandypettah at Mettupālaiyam	11,470
(21) Kona conduit at Udayagiri	5,000
(22) Construction of drains in the east and south of Tiruvadi	3,470
(23) Construction of a ward in the hospital, Dhārāpuram	9,080
(24) Construction of three market sheds at Velpur	3,594
(25) „ of a well with pump and cistern at Angadipuram	3,240
(26) Construction of an operation room at Chidambaram	5,210
(27) Out-patient dispensary at Gudur	12,210
(28) Scavengers' huts at Gogai	17,572
(29) Extension of Udumalpet union	15,000
(30) Construction of a compound wall round the hospital building at Tadpatri	2,730
(31) Construction of plague camps at Vāniyambādi and Pudupet toll-gates	4,300

9. Eighteen works estimated to cost Rs. 1,29,145 were awaiting settlement of questions under correspondence (land acquisition, settlement of site, etc.) :—

	RS.
(1) Out-patient dispensary at Arantangi	7,500
(2) New out-patient dispensary at Avanashi	6,800
(3) Construction of a flood bank and two automatic sluices for the drains at Amaravati	7,200
(4) Construction of a ward of six beds at Dindigul	4,060
(5) Endowed tank at Yeddanapadi	3,760
(6) Improvements to the Pillai tank at Chatrapur	4,800
(7) Dispensary building at Melaviraraghavapuram	14,460
(8) Draw-well at Jampeta	2,940

	RS.
(9) Construction of a European and surgical ward at Chittoor ..	7,280
(10) Isolation ward for small-pox and cholera patients at Negapatam	13,895
(11) Construction of two nurses' quarters at Tanjore	7,100
(12) Improvements to the drinking-water tank at Kakirampalli ..	4,610
(13) Improvements to the Sittarai tank at Tanjore	4,050
(14) ,, to Tamaraikulam at Tanjore	4,460
(15) ,, to Arasoor tank at Tanjore	5,550
(16) Construction of a hospital at Punachi	12,800
(17) Construction of quarters for the Sub-Assistant Surgeon at Nagore	2,900
(18) Construction of a ward of twelve beds in the municipal hospital at Parlākimedi	12,080

10. Seven works estimated to cost Rs. 72,385 were deferred pending allotment of funds, which could not be arranged for in 1913–14:—

	RS.
(1) Bullocks slaughter-house at Mettupālaiyam	2,800
(2) Providing compound walls and tiled sheds in the burning and burial-grounds at Māyavaram	18,280
(3) Relieving congestion in Nellore	8,890
(4) Construction of a dispensary at Manambuchavadi	13,200
(5) Construction of a dispensary at Ammapet	9,730
(6) Acquisition of a site for the extension of Jampeta market, Rajahmundry	5,729
(7) Acquisition of Edigagudam to the east of Symalamba road, Rajahmundry	13,756

11. Seven works estimated to cost Rs. 25,120 have since been abandoned in favour of revised proposals:—

	RS.
(1) An isolation ward for septic and dirty cases at Tenali	2,700
(2) Dispensary building at Talavadi	10,000
(3) Drinking-water supply for Tsodur village	2,600
(4) Improvements to the out-patient dispensary and Sub-Assistant Surgeon's quarters at Sriperumbudur	2,450
(5) Out-patient dispensary at Sembiyam	11,500
(6) ,, ,, at Perundurai	10,250
(7) Site for the formation of a railway town at Ambattur	25,000

12. Three works estimated to cost Rs. 15,250 were reserved for execution as famine-relief works:—

	RS.
(1) Filling up ditches at Kolalu	5,000
(2) ,, ,, at Hirigadahalli	6,000
(3) Construction of a reservoir at Vishukayalupalli	4,250

(True Extract.)

W. G. MOLESWORTH,
Secretary, Sanitary Board.

To the Secretary to Government, Local and Municipal Department
(with the reports of the Sanitary Engineer
and the Sanitary Commissioner).
,, Sanitary Commissioner for Madras.
,, Sanitary Engineer to Government.
Copy to the Chief Engineer, Public Works Department.

Order—No. 1683 L., dated 29th September 1914.

The report of the Sanitary Engineer, which covers the period from 1st April to 31st December 1913, was submitted to the Sanitary Board only on the 18th May, and that of the Sanitary Commissioner, which relates to the calendar year 1913, was sent in so late as the 6th August 1913. These two reports were forwarded to the Government by the Sanitary Board with its resolution on the 22nd August. The Sanitary Commissioner again attributes the inordinate delay to the late receipt of the district and municipal reports. The importance of the punctual submission of these

was impressed on Collectors and Presidents of District Boards in G.O. No. 1936 L., dated 11th November 1913, and their attention will again be drawn to the matter.

2. *Rainfall and prices of food grains.*—The total average rainfall was 2·55 inches less than that of the preceding year, but the prices of the staple food-grains, though much above the average, remained almost stationary in all the districts.

3. *Birth-rate in rural areas.*— Vital statistics were returned from the same areas as in the previous year. The birth-rate as a whole was 32·2 per mille, or 1·3 more than in the year preceding, and (excluding Madras City) ranged between 38·7 in Guntūr district and 25·4 in Rāmnād. The most striking variation was in Ganjām where the rate advanced from 18·2 to 30·4 per mille.

The registration of vital statistics was compulsory in 279 unions and 1,898 non-union villages; the birth-rate there was 31·8 per mille as compared with 31·9 per mille in non-compulsory areas. In only ten of the 21 districts where registration was compulsory were the rates in compulsory areas above those in non-compulsory tracts; the excess was most marked in Salem (+ 22·1), while Kurnool and Kistna showed the largest decrease. The attention of the Collectors concerned will be drawn to the remarks of the Sanitary Commissioner regarding the inefficiency of the registering agency in the towns referred to in paragraphs 13 and 23 of the report.

4. *Death-rate in rural areas.*—The general death-rate fell from 24·3 to 21·4 per mille partly in consequence of decreased mortality from cholera and fevers, but an increase occurred in the districts of Rāmnād (+ 1·1) and the Nilgiris (0·4). Among the other districts the decrease was most marked in Cuddapah (— 12·4) and in Bellary (—11·7) where the death-rate (35·2) was the highest in the Presidency in 1912. The district figures varied from 26·5 per mille in Malabar to 16·9 in Gōdāvari. The rate in compulsory areas (21·1 per mille) was higher (by 0·5 per mille) than in tracts where registration was voluntary.

5. *Birth and death-rates in municipal areas.*—The recorded birth-rate rose in 41 municipal towns, particularly in Adōni (+ 22·9), Bellary (+ 10·0) and Vāniyambādi (+ 10·0) and declined in 21, noticeably in Gudiyāttam (— 8·7), Tiruppattūr (— 8·4) and Cocanada (— 8·3). Decreases were apparently due to defective registration and the attention of the councils concerned will be drawn to the matter.

The death-rate in municipalities again fell from 34·0 to 31·9 owing to fewer deaths from cholera and fevers. An increase occurred in 17 towns—most marked in Tiruppattūr (+ 14·7), Coimbatore (+ 12·8) and Palni (+ 12·2)—while the chief declines were in Vāniyambādi (— 38·8) and Gudiyāttam (— 35·0) both of which returned the largest increases in 1912.

6. *Infantile mortality.*—A drop in infantile mortality occurred both in municipal (— 9·4) and rural (— 10·4) areas, the rates of mortality having averaged 238·8 per mille in the former and 180·0 per mille in the latter. The municipal rate was highest in Palni (335·9) and Guntūr (319·3). Among rural areas, Chingleput (214·3) had the worst record and was followed by Tanjore, South Arcot and Tinnevelly, in all of which the rate exceeded 200 per mille. As compared with the previous year, the most noticeable variations in towns occurred in Hospet (+ 113·2) and Masulipatam (— 124·9), and among the districts in North Arcot (+ 23·9) and Ganjām (— 39·9).

7. *Fevers.*—"Fevers" continued to be the chief classified cause of death and accounted for 6·7 per mille (or nearly a third of the total) of the deaths from all causes. In rural tracts the figure was 7 and in town circles 4·6. The rate was particularly high in the districts of Vizagapatam (15·3), Ganjām (12·8), Kurnool (11·6) and Guntūr (10·5) and in the municipal town of Kurnool (15·6).

Major T. S. Ross, I.M.S., and Captain J. H. Horne, I.M.S., continued to be in charge of the malaria operations in the Presidency. During the year, the former conducted investigations at Cumbum and Siddapuram in the Kurnool district, Waltair and Koraput in the Vizagapatam district and Kallichedu in the Nellore district and in the Lower Palnis (Madura district) and the Anamalais (Coimbatore). He also supervised the progress of the anti-malarial operations at Ennore.

Captain E. C. Hodgson, I.M.S., was appointed special malaria officer for the City of Madras, and under his guidance anti-malarial operations were conducted on a large scale in the city. In aid of them the Government sanctioned a grant of one lakh of rupees in 1913–14 and have made a further grant of three lakhs in the current year.

Captain Horne conducted a stegomyia survey of the ports of Madras, Negapatam and Tuticorin and investigated the practicability of starting an anti-mosquito campaign in the Wynaad, a specially malarious area. He also held classes of instruction for assistant surgeons and sub-assistant surgeons to be detailed respectively for the stegomyia survey and the charge of travelling dispensaries.

8. *Cholera.*—The mortality from cholera dropped from 2·3 per mille to 0·9 per mille. The disease appeared in every district, being severe in Anantapur (4·7) and Tanjore (2·5) and in 43 municipalities, the total mortality in the latter being 0·7 per mille against 1·8 in 1912. The town worst affected was Palni (19·0).

From statement XIII appended to the Sanitary Commissioner's report it appears that in eighteen municipal towns in which a protected water-supply has been in existence for more than five years, the number of deaths from fever during the last five years was on an average 16·4 per cent. of the total mortality against 24·7 during the quinquennium preceding the date of introduction of the water-supply, while the number of deaths from cholera was 2·5 per cent. in the later against 8·1 per cent. in the earlier period.

9. *Small-pox.*—Small-pox occurred in all districts. The mortality from it fell slightly, though the ratio per mille remained at 0·4. Coimbatore again returned the highest death-rate (1 per mille) under this head. Seventeen municipal towns escaped the disease and in nineteen towns the number of reported deaths did not exceed four apiece. The death-rate exceeded two per mille in Guntūr (2·6) and Mannārgudi (2·3). In urban areas, where vaccination was generally compulsory, the death-rate was 0·3 against 0·4 in rural tracts. Nearly one-half the number of deaths from small-pox occurred among children under one year of age and about one-third among children aged from one to ten years. During the year under review the Government decided against the extension of what was known as the "trial scheme" of vaccination, the essential features of which were the simultaneous enforcement of the compulsory registration of vital statistics and of compulsory vaccination and the employment of better-trained vaccinators and deputy inspectors of vaccination on enhanced scales of pay, as it was considered that neither compulsory registration nor compulsory vaccination could, for the present, be introduced with advantage in a large proportion of the rural areas.

10. *Plague.*—The number of deaths from plague fell from 6,651 to 5,130. The rate was highest in Coimbatore (1·0 per mille). In the other sixteen districts visited by the disease it exceeded 0·6 only in North Arcot, where it was 0·9. Among municipal towns, Tiruppattūr (44·3 per mille) was the worst sufferer. Next came Coimbatore with a death-rate of 12·7 per mille. The preventive and remedial measures adopted were substantially the same as before. Since the close of the year, however, the passport system has been replaced by the notification system.

11. *Dysentery and diarrhœa.*—The mortality from these fell from 1·8 and 5·6 per mille to 1·6 and 5·4, respectively, in rural and urban areas. In rural areas the Nilgiris (4·8) and Malabar (3·9) recorded the highest death-rates, as in the previous year, and among municipal towns Madras (10·2), Periyakulam (9·7) and Calicut (9·2).

12. *Sanitary works—Civil—I. Municipal areas.*—During the year a piped water-supply was completed in Vizianagram and was nearly finished in Berhampur and Kodaikānal, the number of towns possessing such supplies thus rising to 23. A partial supply continued to be in operation in Kumbakōnam from a sub-artesian source.

Draft rules regulating schemes for town extensions and the provision of house accommodation undertaken by municipal councils were confirmed during the year, and instructions were issued for the disposal of rubbish by screening and incineration. The Government also published for criticism draft rules for the guidance of councils in granting licenses for the construction of buildings and huts. These rules have since been confirmed. The Government have further enunciated the general principles to be observed by municipal councils in the organization of their conservancy staff and have impressed upon local bodies the necessity for disseminating among the people a knowledge of the dangers caused by flies to the health of the community. The

attention of all municipal councils is drawn to paragraphs 62 and 64—69 of the Sanitary Commissioner's report regarding the disposal of sewage, rubbish and night-soil and the duties of sanitary inspectors and overseers.

To improve the sanitary services, the Government of India have sanctioned the appointment of two additional Deputy Sanitary Commissioners and the employment of health officers of the first class in twelve municipal towns and of the second class in nineteen others. One of the additional Deputy Sanitary Commissioners was appointed during the year. The scheme for the appointment of health officers could not, however, be given effect to pending the receipt of a reply from the Government of India to a reference made to them on the question of the enhancement of the subvention from Imperial to Provincial revenues towards the improvement of the sanitary services in this Presidency.

II. Rural areas.—The improvement of rural water-supplies received much attention. Each of the districts of Chingleput, Nellore, Chittoor, North Arcot, South Arcot and Salem was given a grant of Rs. 15,000 from Provincial funds for the conduct of experiments with closed-in wells fitted with pumps, the object being to ascertain, among other things, how far the ordinary village agencies, with the assistance of travelling mechanics to be appointed in each district, would be able to keep in working order the semi-rotary pumps fitted to these wells. If the experiment is a success, it will be extended. Further grants amounting to Rs. 2,86,000 were also made to District Boards to enable them to take systematic action in the direction of providing at least one satisfactory source of drinking-water in every village with a population of 500 or over. An Assistant Sanitary Engineer was also placed on special duty for the improvement of the drinking-water supply in the rural tracts of the Anantapur district where there had been a severe epidemic of cholera. The Government have also sanctioned the creation of two mobile reserve parties of ten sanitary inspectors, each under the charge of an assistant surgeon, in order to check the spread of outbreaks of cholera. These hold themselves in readiness to proceed at short notice to any area affected with the disease.

13. *Imperial and Provincial grants in aid of sanitation*—During the year a Provincial grant of 20 lakhs was distributed among local bodies for expenditure on sanitary works. This amount included the customary allotment of Rs. 3·50 lakhs from Imperial funds. The principal objects for which the subsidy was given were, as usual, schemes for the opening up of congested areas, the acquisition and laying out of town extensions and the improvement of rural water-supplies. During the year the Government of India sanctioned a special non-recurring grant of Rs. 27 lakhs and a recurring grant of Rs. 6 lakhs for expenditure primarily on urban sanitary works in this Presidency. A sum of Rs. 4·43 lakhs was spent up to 31st March 1914 from the recurring grant on the objects set out in paragraph 76 of the Sanitary Commissioner's report. No expenditure, however, was incurred from the non-recurring grant.

14. *The King Institute.*—The King Institute of Preventive Medicine at Guindy continued to do useful work during the period under report. The quarterly analysis of samples from the water-supplies of municipalities and jails conducted in the Institute was temporarily suspended during the year in order to enable the Director to test the new sand and mechanical filters which have been erected in the grounds of the Institute by the Sanitary Engineer and to review thoroughly the results of the previous quarterly analysis.

Since the close of the year the Government have sanctioned the installation of a Mather and Platt gravity filter in addition to the existing mechanical filters at the Institute and have appointed a committee to consider and report how the methods of analysis of water now adopted may be simplified.

15. *Execution of sanitary projects.*—The water-works at Berhampur, Vizianagram, Kodaikānal, Masulipatam, Ellore, Chidambaram and Negapatam and the drainage works at Vellore and Madura were under execution by the Public Works Department which was also engaged in carrying out improvements in the existing water-works at Dindigul and Madura. The water-works at the first three of the above towns were either completed or nearly finished before the end of the year. The

Sanitary Engineer was in charge of the execution of the experimental well in connection with the proposed water-supply scheme for Rajahmundry, of the artesian boring operations at Cochin, of the experimental filters at Guindy and of the improvements to the existing water-supply systems at Kurnool, Cuddapah and Trichinopoly.

16. *Investigation of sanitary projects.*—Among the chief schemes under investigation during the year under report were those for the drainage of Kumbakōnam, Salem, Calicut, Chidambaram, Rajahmundry, Parlākimedi and Periyakulam and for the supply of water to Kumbakōnam, Coimbatore, Tiruvannāmalai, Devakkōttai, Sivaganga, Ongole, Rajahmundry, Rāmnād, Calicut, Parlakimedi, Nandyal, Cochin, Mangalore, Mannārgudi, Dhone, Tindivanam and Peddāpuram. Besides inspecting existing water-works and advising as to their maintenance, the Sanitary Engineer prepared ten type-designs and checked and scrutinized plans and estimates for 463 works of which 292 (being for amounts of less than Rs. 2,500 each) came within his powers of sanction, while 56 were for amounts exceeding Rs. 10,000 each. The power of according professional sanction to estimates for sanitary and other works undertaken by local bodies was raised during the year to Rs. 10,000 in the case of the Sanitary Engineer. Since the close of the year, local boards have been empowered, as a measure of decentralization and of relief to the Sanitary Engineer, to sanction estimates for sanitary works up to Rs. 1,000 or up to Rs. 2,500 when they follow a type-design.

To afford some relief to the Sanitary Engineer a second Deputy Sanitary Engineer and two Assistant Sanitary Engineers were sanctioned for a period of two years in the first instance; and his drawing and clerical establishments have also been strengthened.

17. *Presidency town.*—In the City of Madras the conduit for conveying water from the Red Hills lake to the town was completed and the filter-beds and the pumping station and elevated tank at Kilpauk were nearly finished. Eleven of the filters were tested. To meet the demands of the probable further increase in the population in the next few years, the Government have since sanctioned the construction of seven additional filter-beds and a fourth pure water tank, but these works are not to be undertaken without further orders from the Corporation after experience has been gained of the pace at which the existing filters work and the consumption of water per head throughout the city. Pipe-laying on two of the mains connected with the water-supply distribution scheme was in progress as also experiments for the waste-water detection system. Contract forms were also prepared for the several works connected with the scheme but the tenders offered have not yet been accepted by Government owing to the large variations from the specifications in the tender accepted by the Corporation. On the drainage section, the laying of sewers in Tondiarpet and the three pumping stations there were completed, while the estimates for the main drainage scheme for the city were under the scrutiny of the Public Works Department. The estimates were subsequently revised by the Corporation with reference to the remarks of the Chief Engineer and are now with the Public Works Department. The Corporation has, however, been permitted to put in hand some of the more urgent works included in these estimates.

At the instance of the Corporation, a committee was appointed to consider and report whether the sewage farm at Tondiarpet was a source of malaria in the neighbourhood. The committee was of opinion that although the prevalence of malaria could not be traced to the sewage farm, it was desirable to move it further north. The question of acquiring a new site for the farm is now under consideration and the Government have sanctioned a grant of Rs. 1,25,000 for the purpose.

18. *The Sanitary Board.*—The constitution of the Sanitary Board underwent no alteration, but its powers of final approval have been raised, in respect of the maximum limit of the estimated cost of the schemes, from Rs. 10,000 to Rs. 20,000. The Board approved plans and estimates relating to 96 sanitary works estimated to cost over 32 lakhs in the aggregate; 73 of these, costing 5·51 lakhs, were within its own sanctioning powers and of these, 7 were completed during the year and 31 others were under execution at its close. Among the standard designs issued during the year were those for (1) an out-patient dispensary for women and children, (2) quarters for assistant and sub-assistant surgeons, (3) well water-supply arrangements and (4) an out-patient dispensary for small towns.

19. *Sanitary service.*—Since the close of the year the Government have sanctioned a special course of training for health officers of the second class for mufassal municipalities and sanitary assistants to the District Medical and Sanitary Officers.

(True Extract.)

W. FRANCIS,
Ag. Secretary to Government.

To the Sanitary Board.
,, the ,, Engineer.
,, the ,, Commissioner.
;, the Surgeon-General.
,, the Public Works Department.
,, the Public Department.
,, the Revenue Department.
,, the Assistant Quartermaster-General (with C.L.).
,, the Inspector-General of Police.
,, ,, of Prisons.
,, the Accountant-General.
,, the Director of Public Instruction.
,, all Collectors.
,, all Presidents, Districts Boards.
,, all Chairmen, Municipal Councils.
,, the President, Corporation of Madras.
Editors' Table.